

ON-SCENE COORDINATOR'S REPORT

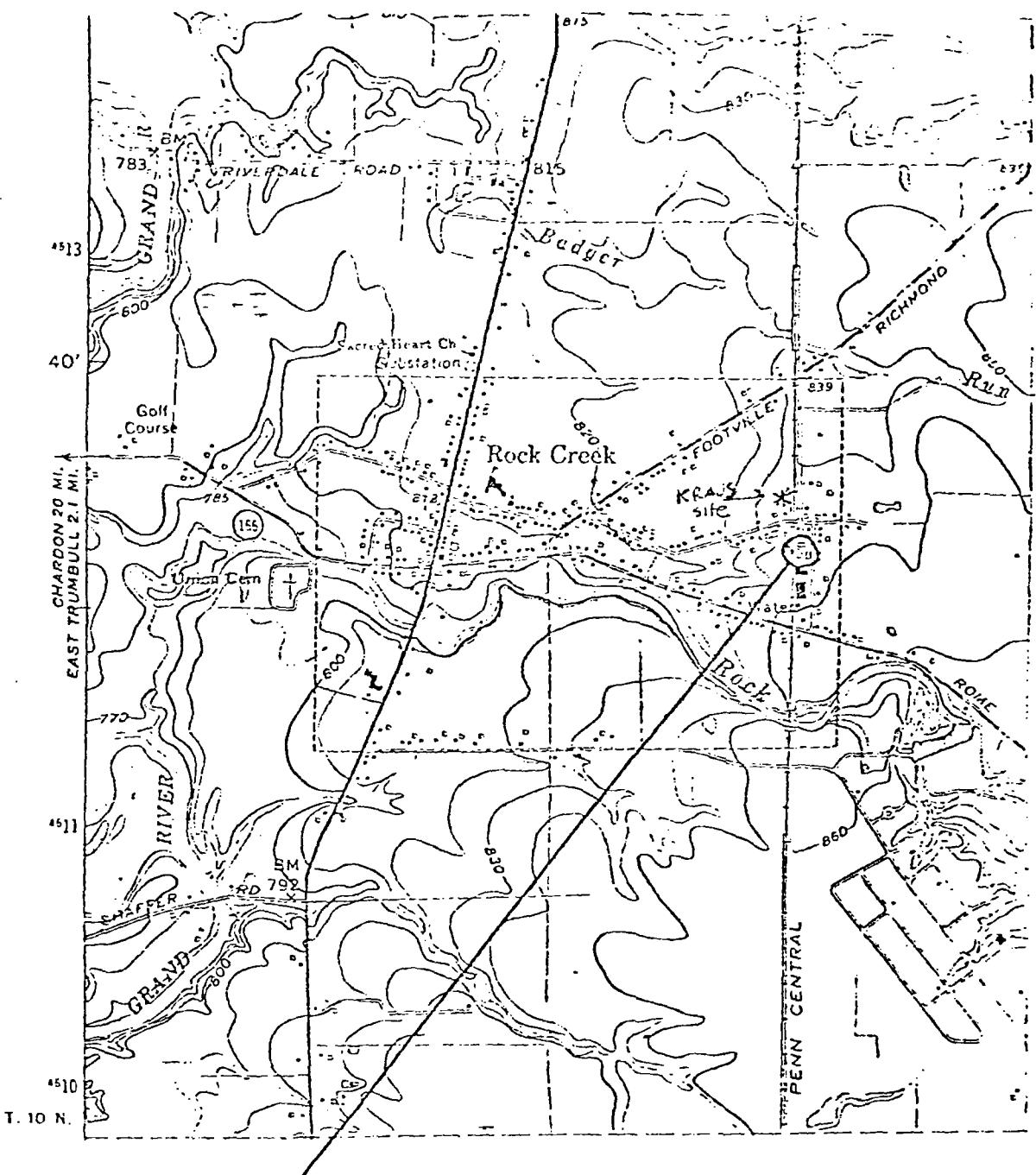
U.S. ENVIRONMENTAL PROTECTION AGENCY

OLD MILL SITE

ROCK CREEK, OHIO

APPENDICES

APPENDIX A - MAP AND SITE SKETCHES



Old Mill Site, Rock Creek, OH



QUADRANGLE LOCATION

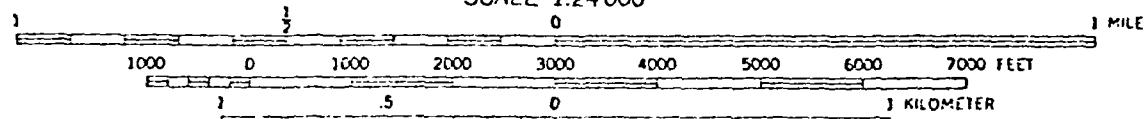
JEFFERSON QUADRANGLE

OHIO-ASHTABULA CO.

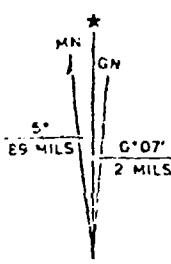
7.5 MINUTE SERIES (TOPOGRAPHIC)

NE 1/4 JEFFERSON 15' QUADRANGLE

SCALE 1:24 000

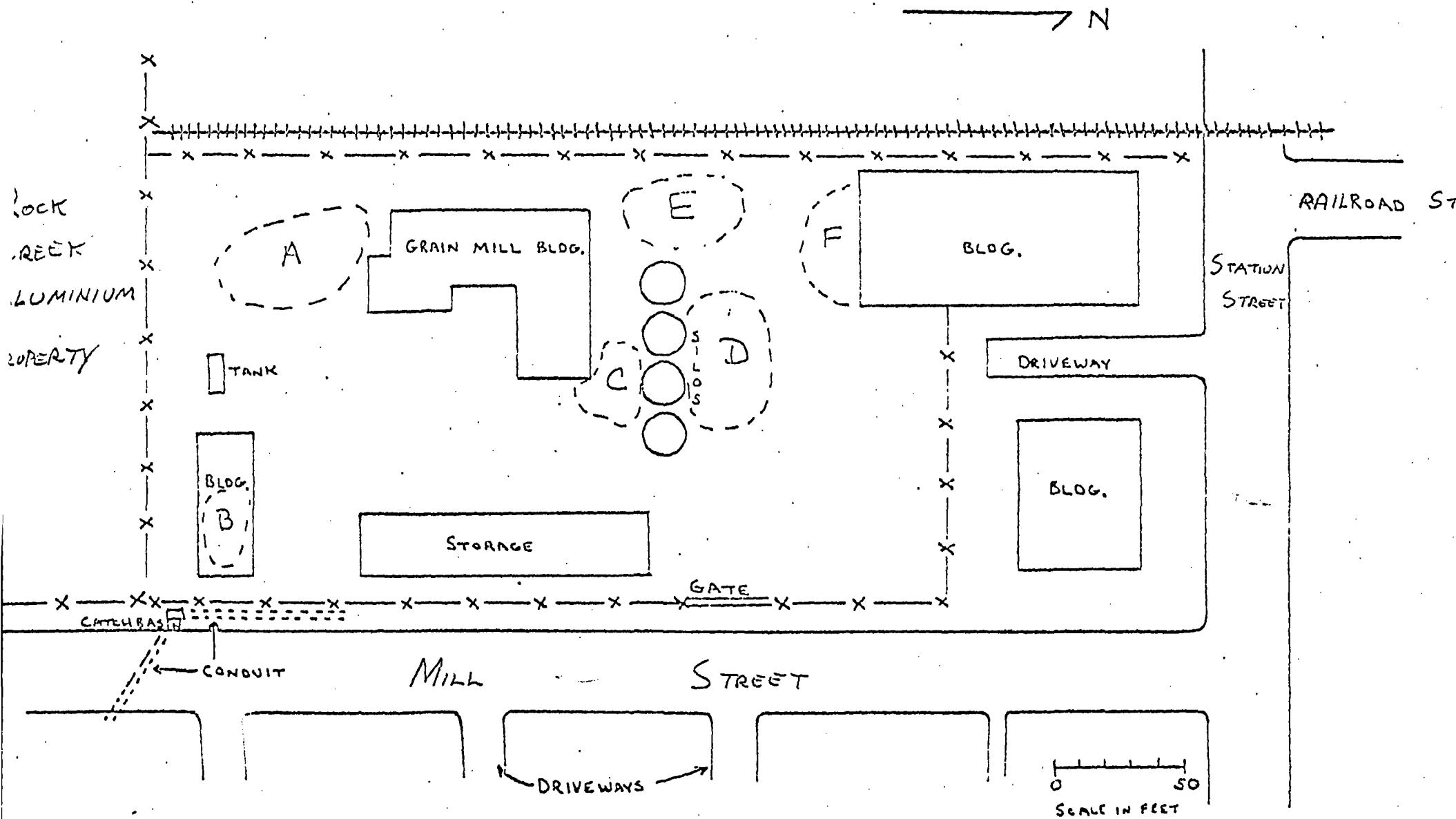


CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL



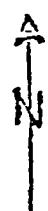
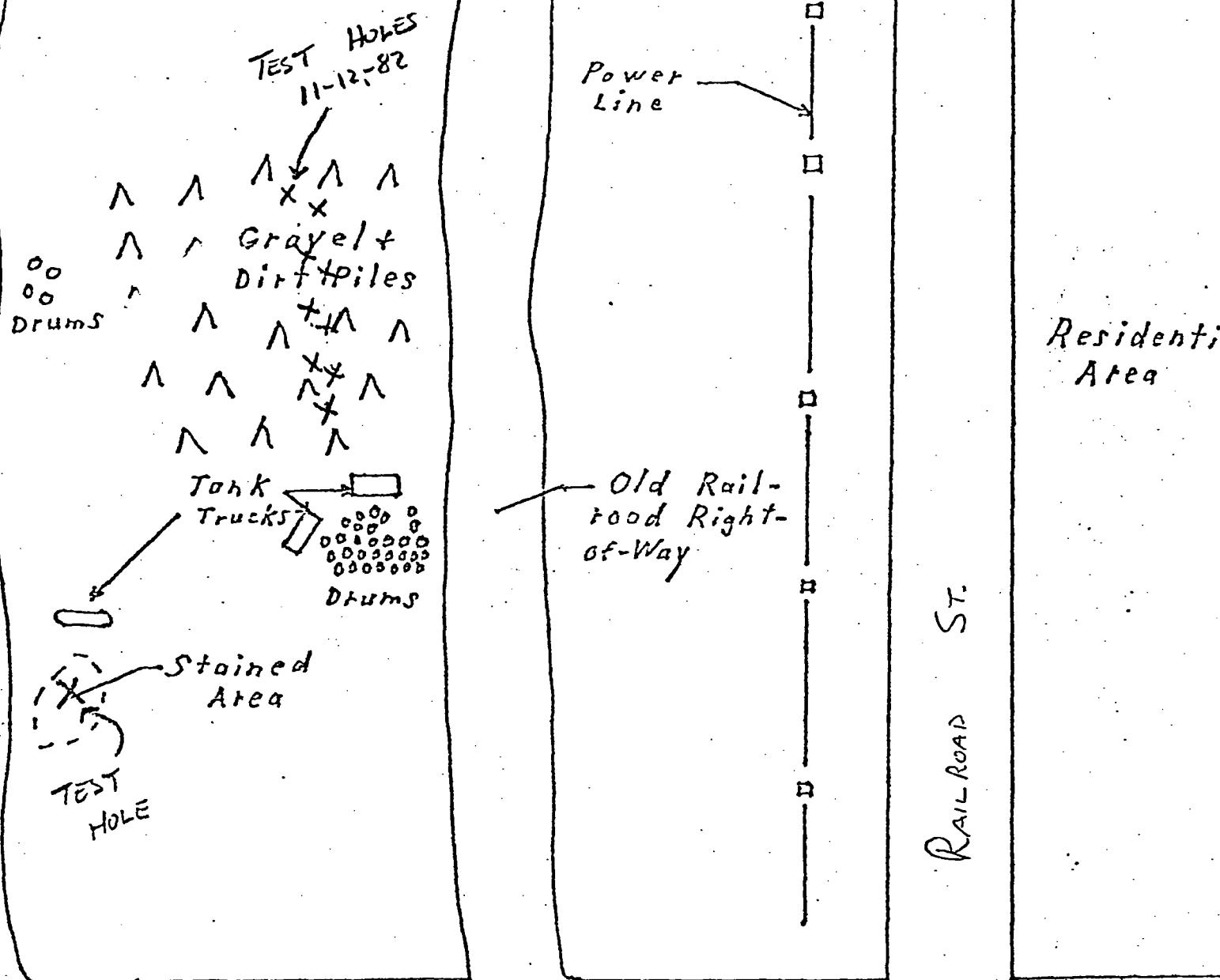
UTM GRID AND 1970 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



Old Mill Site, Rock Creek, Ohio

Major
drainage
areas



KRAUS	site
Rock Creek, Ohio	
Not To Scale	

APPENDIX B - SAMPLING & RESULTS

CONTENTS

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13. November 17, 1982, Water Samples
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1.

JUNE 19, 1979 SAMPLING

I. Site Locations and Identification

William Kraus Site
Station Street & Mill Road Northwest Corner
Open field behind C. E. Cast Industrial
Rock Creek, Ohio 44084

Jack Webb Site
Mill Road South of Station Street
On Old Grainery
Rock Creek, Ohio 44084

Jack Webb's Second Site
Mill Road & Station Street Southwest Corner
Large Barn
Rock Creek, Ohio 44084

II. Dates of Inspections

June 18-19, 1979

III. Participants

A. June 18, 1979 Inspection

Daniel C. Watson, Physical Scientist, U.S. EPA, EDO (Author)
Joseph Good, General Mechanic, U.S. EPA, EDO
Mark Bergman, Engineer, OEPA, NEDO

B. June 19, 1979 Inspection

Daniel C. Watson, U.S. EPA, EDO
Joseph Good, U.S. EPA, EDO
William Kraus, Site Owner

IV. Description of Sites

A. William Kraus Site

This site consists of one large building marked C. E. Cast Industrial which is used for storage, another smaller storage building and about 40 acres of land. (See enclosed maps for location and layout of site.) The buildings are situated close to Station Street. The Station Street side of the lot is littered with junked vehicles, trash and debris. About 1000 feet back from the road, in high weeds, are approximately 400-500 55-gallon drums. These drums have markings from several chemical companies including Hooker Chemical, Monsanto, Ashland Chemical, Diamond Shamrock, and Quaker Chemical. Some were marked as containing perclene, polymeg, 111-trichloroethane, methylene chloride, bakelite phenolic plastic, tuluol, isopropanol, anhydrol, pluracol, teracol, and acetone. Most drums are marked toxic, some flammable, non-flammable, and hazardous. Many drums are rusted through, ruptured or uncapped and dumped. Much of the land is barren from spills. During both inspections, many of the drums were popping and expanding from the heat. These drums are marked flammable and in

their present condition present a danger of exploding or burning. There are strong fumes coming from the drum area. During both inspections EDO personnel experienced an instant reaction to fumes coming from one of the areas. This reaction consisted of a headache, foul taste and numbness in the throat and mouth, a burning and aching in the eyes, nausea and light headedness. Twenty-four hours after being exposed to the fumes the symptoms persisted.

On the Mill Road side of the lot, adjacent to some railroad tracks, is a spot where some rubbish has been burned and oil spilled. There are empty drums in this area. Some of the drums are full and have chemical company markings. Others, containing hardened resin, are opened and dumped over. The rest of the drums are empty with oil residue in them. This area has been graded and the area's oily dirt pushed into a ditch. The ditch contained some water and much oil. The oily water had sawdust thrown on it. When flowing, this ditch goes to another drainage ditch that runs along the highway towards the town of Rock Creek, and then to Rock Creek. All these ditches were dry during the inspection. The contour of the land is such that any spills in this area will eventually enter Rock Creek. The town of Rock Creek draws its drinking water supply upstream from where this site and its ditch drain into the creek. Ground water contamination is eminent and may effect wells in the immediate area.

During the June 19 inspection EDO personnel talked to Mr. William Kraus. Mr. Kraus stated that he leased this site to Mr. Jack Webb. Mr. Webb wanted the land for storage of "empty" drums until they could be crushed and sold. Allegedly Mr. Kraus has asked Mr. Webb to remove the chemical drums from his property. Mr. Webb has, according to Mr. Kraus, removed some of the drums. Mr. Kraus also stated that the trash burning area is his, along with the empty oil drums in this area.

During both inspections photographs of the site were taken and are included with this report.

The following soil and water samples were taken during the June 19 inspection:

CRL Sample #

79EW05

Location

S01	Sediment from around barrels in field
S02	Oil under burn area - sediment
S03	Sample from open drum - liquid
S04	Water from drainage ditch
S05	Black substance scraped off drum
S06	Sediment from soil next to leaking drum

In addition, four pint size cans and one plastic bottle, marked Hughson Chemicals Quality Control Department, were taken from an open drum. All samples are being kept in custody at EDO until further notice.

B. Jack Webb Site

After leaving Mr. Kraus' field, the Jack Webb site was visited. (See enclosed maps for location and layout of site.) This site was closed. There are about 300-400 drums, of the same type as those at Mr. Kraus', stored at this site. Some of the chemical drums at this site are empty. No information could be obtained at this site and no pictures or samples were taken. Attached is a copy of an

inspection of this facility conducted on June 20, 1979, by Joseph Fredle, U.S. EPA, EDO.

C. Jack Webb's Second Site

Adjacent to and north of the Jack Webb site is a large barn. Chemical drums stacked two to three rows high could be seen through a partially opened door. No one was at this site and no pictures or samples were taken and an inspection was not conducted on June 19. Also attached is a copy of an inspection of this facility, conducted by Joseph Fredle on June 20, 1979.

VI. Findings and Conclusions

A. William Kraus Site

1. Three hundred to five hundred chemical drums are stored at this site. Most drums are marked toxic, flammable, flammable-toxic, and non-flammable-toxic and, with chemical company names such as Hooker Chemical, Ashland Chemical, Monsanto and Quaker Chemical.
2. Numerous chemical spills, several leaking drums, drums marked flammable expanding to the point of possible explosion, and accompanying noxious fumes pose an eminent danger to this area.
3. Mr. Kraus stated that Mr. Jack Webb owns the chemical drums and leases the site. Mr. Kraus has allegedly ordered Mr. Webb to remove the drums from his land. EPA should take action before these drums are moved and possibly disposed of indiscriminately.
4. Pictures, four sediment samples, one drum sample, and one water sample along with four previously canned and bottled samples, marked Hughson Chemical were taken at this site and are being held in custody at EDO.
5. Strong fumes in the drum area caused adverse health effects to EDO personnel during the inspections. Mr. Kraus has dumped crude oil and brine into a drainage ditch adjacent to a trash burning and oil dump site. The contour of the land shows spills on this site and in the drainage ditch flow to Rock Creek. The town of Rock Creek draws their drinking water from Rock Creek upstream from where drainage from this site would enter the creek. There is a water supply on the Grand River near Madison, several miles downstream from the confluence of Rock Creek and the Grand River.

B. Jack Webb Site

1. This site was closed on the inspection dates and an inspection could not be made.
2. Three hundred to four hundred chemical company drums, both full and empty, are being stored at this site.
3. Spills and fumes from this area also pose a potential danger to this area.

C. Jack Webb's Second Site

1. A barn where chemical drums are stacked two to three rows high could be seen through a partially opened door. This site was closed and no estimate could be made of the type and amount of drums stored at this location.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: August 31, 1979

SUBJECT: Analytical Results: Data Set EDO 428 - Rock Creek Dump Site

FROM: Emilio Sturino, Chief
Organic Lab Section, CRL

TO: A.R. Winklhofer, Chief
Eastern District Office

Thru: Curtis Ross, Director
Central Regional Laboratory

Attn: Don Watson
Eastern District Office

Emilio Sturino
CR

All samples were analyzed for toxic organic compounds using computerized high performance gas chromatography/mass spectroscopy and by gas chromatography with the Hall electrolytic detector (which is specific for halogenated compounds).

The results of the analysis indicate that:

1. None of the samples contained any detectable amounts of chlorinated organic compounds (detection limit .1%).
2. Sample #79-EW05S01 and 79-EW05S04 consist of light fuel oils.
3. None of the samples contained any detectable amounts of 22 selected base-neutral "priority pollutants", (detection limit approximately .04%). Table II gives a listing of those compounds.
4. Table I summarizes the positive results.

The samples consist of oils or tar-like material. Because of the complex nature of the sample matrices, lower detection limits could not be obtained.

If you have any questions concerning these analyses, please call Dr. John Gilmore at 353-9079.

cc: Sandra Gardebring, Director
Enforcement Division

TABLE I.
Analytical Results on EDO 428 - Rock Creek

EW05S01	Aliphatic hydrocarbons (fuel oil) 11 mg/kg to 53 mg/kg
EW05S02	Bis-(2 ethylhexyl) phthalate 2,867 mg/kg Di-n-octyl phthalate 557 mg/kg
EW05S03	No toxic organics detected < 0.1% (Amorphous oil)
EW05S04	3,6-dimethyl-4-heptene-3-one 13 mg/kg aliphatic hydrocarbons (fuel oil) 2 mg/kg to 36mg/kg
EW05S05	Ethylbenzene 432 mg/kg o-Xylene 2543 mg/kg p-Xylene 791 mg/kg p-methyl phenethyl alcohol 831 mg/kg
EW05S06	2,6-bis (1,1-dimethylethyl)-phenol 7,935 mg/kg

2.

MAY 2, 1980 SAMPLING

1e8

+P

JACK WEBB - Dump Site - Rock Creek, OH

Date of Survey - May 1-2, 1980

Survey Team - Daniel Watson - Physical Scientist
David Barna - Environmental Engineer
Charles Beier - Engineering Technician

The survey team arrived in Rock Creek at approximately 10:00 a.m. and went directly to the Jack Webb site. There was no one at the scene. Efforts to locate Mr. Webb proved fruitless. Mrs. William Kraus was contacted and she stated that Jack Webb lived in Perry, Ohio. Incidentally the sheriff's deputy was attempting to serve Mr. William Kraus with an eviction notice.

The team drove to Perry, Ohio being unable to contact Mr. Webb by phone. Here it was reported that he now lived in Austinburg, Ohio. Arriving in Austinburg we learned from the postmaster that the only Webb in that community had died several years ago. There was a J. Webb listed in the Thompson, Ohio telephone directory, but no answer was obtained after placing several calls.

The team returned to Rock Creek and tried in vain to contact Mr. Kraus again. At the site a young man, name not given, validated the fact that Jack Webb did live in Thompson. With this information the team returned to Westlake.

On the morning of May 2, 1980 Mr. Watson called Jack Webb at his Thompson, Ohio home and arranged for a meeting at Rock Creek later that morning. The survey team was reduced to Mr. Watson and Mr. Beier, they met with Mr. Webb at approximately 10:30 a.m.

It was explained to Mr. Webb that additional samples had been requested by the Enforcement Division. He was agreeable and together we selected the seven (7) sample points. Mr. Webb then departed declining any split of the samples that we proposed to take.

S01 was taken at 11:00 a.m. from a 18" pipe drain located southwest of Webb's property and reported as being a drain from C.E. Aluminum Casting Company bordering on the south lot line of the Webb site. The water was clear.

S02 was taken from a puddle located practically in the center of the Webb property in front of the mill building shed. On return to the lab the conductivity was measured at approximately 200,000 μ mhos. Silo's Nos. 1 and 2 reportedly have been filled with brine, however, Mr. Webb indicated that they were now empty.

D03 was a duplicate of S02 for Quality Control purposes.

S04 was taken from the ground immediately adjacent to a group of drums. The sample appeared to be a beige colored paint that had only recently leaked out.

S05 was an oily residue sample taken at the base of a drum whose inside also contained a like substance.

S06 was taken from a grouping of drums in an area where the soil was definitely contaminated from various spillages.

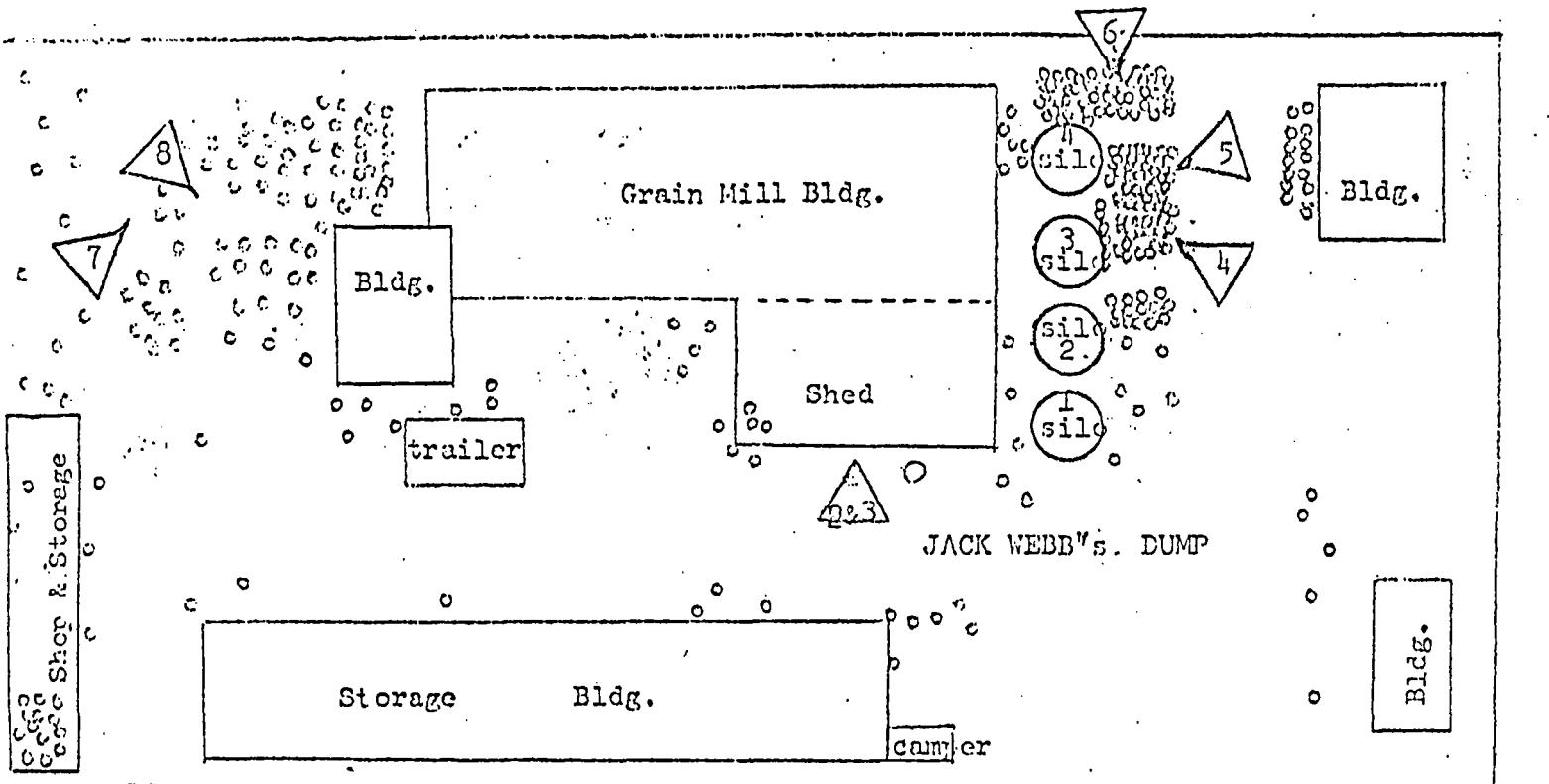
S07 was taken at the southern end of the property. The soil here was still extremely moist and had a sheen to it. Actually it appeared to be the center of what had recently been a pool of liquid disclosing a high water mark.

S08 was taken from a pile or mound of a red substance that had evidently been dumped on the ground and was still in a concentrated form.

All sample locations are depicted on the attached drawing and located with respect to Rock Creek on a companion copy of the local topography map.

The weather was clear and warm both on the day of sampling as well as the previous day.

drain from C.E. Aluminum Castings



JACK WEBB'S. DUMP

SO1 drain
SO2 brine puddle
SO3 brine puddle
SO4 paint leaking from
drum
SO5 oil residue on
ground at drum
SO6 oil soaked soil
SO7 soil
SO8 red substance
Silos No. 1 & 2 reported
to contain brine.

N

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: June 3, 1980

SUBJECT: Flash Point Determination of Jack Webb Site Samples

FROM: Tayseer Gouda, Team Leader, Minerals/Nutrients Unit
Inorganic Laboratory Section, CRL

TO: Alfons Winklhofer, Chief
Eastern District Office

CR

Flash point determination on sample numbers 80EW08S04, 80EW08S05 and 80EW08S06 (CRL Data Set ED0514), could not be run due to the fact that the first two samples are solids and the last one is highly viscous. The applicable test in this case is the flammability test. The flammability test was conducted and the following results were obtained:

Sample #	Flammability
80EW08S04	Readily ignitable and burned gently
80EW08S05	Readily ignitable and burned gently
80EW08S06	Readily ignitable and burned vigorously

The samples caught fire readily and it is in my expert opinion that these samples constitute a fire hazard.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE August 4, 1980
SUBJECT Organic Analysis of Data Set EDO 514 Samples Collected in the Vicinity of Jack Webb Sites, Rock Creek, Ohio
FROM Curtis Ross, Chief
Central Regional Laboratory *CR*
TO Alfons R. Winklhofer, Chief
Eastern District Office

The samples listed below from the subject data set were analyzed for polychlorinated biphenyls (PCBs) and "non-purgeable" organics using gas chromatography with electron capture detection and with computerized gas chromatography/mass spectroscopy (GC/MS/DS). These samples were collected May 2, 1980 through May 8, 1980 and were received at the CRL on May 15, 1980.

<u>CRL Sample Number</u>	<u>Description</u>
80-EW08S01	Water - Draining Ditch
80-EW08S02	Water - Brine Puddle
80-EW08D03	Water - Brine Puddle
80-EW08S04	Spill Sample from a Leaking Drum
80-EW08S05	Spill Sample
80-EW08S06	Oil Spill Sample
80-EW08S07	
80-EW08S08	
80-EW08S09	Well Water
80-EW08S10	Well Water

As indicated on the attached laboratory report sheets, PCBs were detected only in sample 80-EW08S06 (at 7 ppm).

Phenol was detected in sample 80-EW08S02 at 2,900 ppb and in sample 80-EW08D03 at 2.6 ppb. In addition, three unidentified alcohols were also detected in these two samples.

No organics were detected in samples 80-EW08S01, 80-EW08S09 and 80-EW08S10 (detection limit approximately 10 ppb).

If you have any questions regarding these analyses, please contact Dr. Emilio Sturino at 353-9065.

Attachment(s)

ENVIRONMENTAL PROTECTION

AGENCY, REGION V, CRL

EDD DATA

05-30-80

SET NO. 514

PARAMETER #	00916	00927	00929	01077	01105	01022	01007	01012	01027	01037
SAMPLE ID.	CA	MG	NA	AG	AL	B	BA	BE	CD	CO
UNITS	MG/G	MG/G	MG/G	UG/C	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G
EW08S06	27.4	7.1	0.1	0.4	11000	21	310	0.8	2	1
8	3.2	0.4	3.4	K 0.3	1800	K 8	13	K 0.1	K 0.2	3

PARAMETER #	01034	01042	01045	01055	01062	01067	01051	01102	01152	01087
SAMPLE ID.	CR	CU	FE	MN	MO	NI	PB	SN	TI	V
UNITS	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G
EW08S06	33	450	17000	540	19	28	200	37	160	15
8	300	360	3100	52	5	100	33	16	43	3

PARAMETER #	01203	01092	05
SAMPLE ID.	Y	ZN	05
UNITS	UG/G	UG/G	UG/G
EW08S06	6	390	N.A.
8	K 0.5	59	N.A.

ENVIRONMENTAL PROTECTION

AGENCY, REGION V, CRL

EDO DATA

05-30-80

SET NO. 514

PARAMETER #	00916	00927	00929	01077	01105	01022	01007	01012	01027	01037
SAMPLE ID.	CA	MG	NA	AG	AL	B	BA	BE	CD	CO
UNITS	MG/G	MG/G	MG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G
EW08305	56.9	6.6	K1.2	K 3	23000	K 40	110	2	3	K 5
7	48.0	20.2	37.3	K 3	132000	240	94	K 1	10	K 5

PARAMETER #	01034	01042	01045	01055	01062	01067	01051	01102	01152	01087
SAMPLE ID.	CR	CU	FE	MN	MO	NI	PB	SN	TI	V
UNITS	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G
EW08305	52	530	22000	570	36	K 30	260	K100	220	19
7	130	630	14000	1500	200	31	400	170	1600	69

PARAMETER #	01203	01092	05
SAMPLE ID.	Y	ZN	
UNITS	UG/G	UG/G	UG/G
EW08305	7	480	N.A.
7	K 5	590	N.A.

ENVIRONMENTAL PROTECTION

AGENCY, REGION V, CRL

EDG DATA

05-30-80

SET NO. 514

PARAMETER #	00916	00927	00929	01077	01105	01022	01007	01012	01027	01037
SAMPLE ID.	CA	MG	NA	AG	AL	B	BA	BE	CD	CO
UNITS	MG/G	MG/G	MG/G	UG/G						
Ew08504	K 0.6	0.2	K 0.1	K 0.3	470	K 9	770	K 0.1	K 0.2	K 0.6

PARAMETER #	01034	01042	01045	01055	01062	01067	01051	01102	01152	01087
SAMPLE ID.	CR	CU	FE	MN	MO	NI	PB	SN	TI	V
UNITS	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G	UG/G
Ew08504	1	3	1500	6	K 1	K 3	K 3	18	510	K 0.6

PARAMETER #	01203	01092	05
SAMPLE ID.	Y	ZN	
UNITS	UG/G	UG/G	UG/G
Ew08504	====	====	====
	K 0.6	23	N.A.

ENVIRONMENTAL PROTECTION

AGENCY, REGION V, CRL

EDO DATA S
05-30-80

ET NO. 514

PARAMETER #	00916	00927	00929	01077	01105	01022	01007	01012	01027	01037
SAMPLE ID.	CA	MG	NA	AC	AL	B	BA	BE	CD	CO
UNITS	MG/L	MG/L	MG/L	UG/L						
EW08502	====	=====	=====	====	====	====	====	====	====	====
D03	29000	3250	50600	K300	K9000	8800	1500	K100	K200	K500

PARAMETER #	01034	01042	01045	01055	01062	01067	01051	01102	01152	01087
SAMPLE ID.	CR	CU	FE	MN	MO	NI	PB	SN	TI	V
UNITS	UG/L	UG/L	UG/L							
EW08502	====	====	====	====	====	====	====	====	====	====
D03	2100	1800	81000	60100	K1000	K3000	5600	K10000	K600	600
	2200	1700	81400	60600	1200	K3000	7300	K10000	K600	700

PARAMETER #	01203	01092	05
SAMPLE ID.	Y	ZN	05
UNITS	UG/L	UG/L	UG/L
EW08502	====	====	====
D03	1500	11300	N.A.
	1800	11600	N.A.

SAMPLE PROTECTION

UP 4/17°

Sent 6/12/80
AGENCY, REGION V, CRL

EDO DATA S

05-30-80

ET NO. 514

June 2 June 80

PARAMETER #	00916	00927	00929	01077	01105	01022	01007	01012	01027	01037
SAMPLE ID.	CA	MG	NA	AG	AL	B	BA	BE	CD	CO
UNITS	MG/L	MG/L	MG/L	UG/L						
Ew08S01	211	56.7	253	K 3	K 90	204	70	K 1	K 2	K 5
9	101	32.4	18.8	K 3	K 90	K 80	31	K 1	K 2	K 5
10	68.4	20.3	13.0	K 3	K 90	K 80	27	K 1	K 2	K 5

PARAMETER #	01034	01042	01045	01055	01062	01067	01051	01102	01152	01087
SAMPLE ID.	CR	CU	FE	MN	MO	NI	PB	SN	TI	V
UNITS	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Ew08S01	34	19	256	1020	K 10	K 30	K 30	K100	7	K 5
9	21	860	K120	97	11	K 30	K 30	K100	K 6	K 5
10	13	26	221	36	13	K 30	K 30	K100	K 6	K 5

PARAMETER #	01203	01092	
SAMPLE ID.	Y	ZN	05
UNITS	UG/L	UG/L	UG/L
Ew08S01	6	K 50	N.A.
9	K 5	105	N.A.
10	K 5	2350	N.A.

CR-6 (12/8)

ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC DATA FORM

8 OF

Critically

DIVISION/MRANCH EDO SPA

Sampling Date 2 5 80 Lab Arrival Date 15 5 80 Analysis Due Date AS/1
Day Month Year Day Month Year Day Month YearD.U. NUMBER D-305

ACTIVITY

RCRA

1M 4 Jun 80

Date last 5/14 Study JACK UCAR 51

Parameter No.	01105	01002	01007	01027	01034	01037	01042	01045	01051	01055		
CRL Sample Log Number	Total Aluminum	Total Arsenic	Total Barium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Manganese	TOTAL MERCURY	TOTAL ICAT
Units SUEWOS	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l		
1	S01	✓	6.5								✓	✓
2	S02	✓	670.								✓	✓
3	S03	✓	725.								✓	✓
4	S04	✓	K2								✓	✓
5	S10	✓	3.0								✓	✓
6		✓	K									
7			6/4/80									
8												
9												
10												
11												
12												
13	Code 7-5 Water samples stored receiving room 1029 refrigerator.											
14												
15												
16												
17												
18												
19												
20												

Put 2.0 ml of Ultraex conc HNO₃ in
each sample.

76ml 5/15/80

ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC DATA FORM

5/28/80 U.S.G. DIVISION/BRANCH EDO SPA Sampling Date 2 5 80 Lab Arrival Date 15 5 80 Analysis Due Date ASH/1
D.O.T. NUMBER D-305 ACTIVITY RCPA Study D-305-514 JACK WEAVER SITE

Water No.	01005	01002	01007	01027	01034	01037	01042	01045	01051	01055	TOTAL MERCURY	TOTAL ICAP
Anal Sample No. Number	Total Aluminum	Total Arsenic	Total Barium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Manganese	µg/l	µg/l
Units	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l		
514-1	1	.	.	.	.	.	.	.	.	.	0.2	✓
514-2	1	.	.	.	.	.	.	.	.	.	1.6	✓
514-3	1	.	.	.	.	.	.	.	.	.	1.6	✓
514-9	1	.	.	.	.	.	.	.	.	.	0.1	✓
514	1	.	.	.	.	.	.	.	.	.	KO.1	✓
											KC	
											5/27/80	

* Interference, diluted 1:10

Cont. 7-5 Water sample started receiving from 1029 neighbor lot.

Put 2.0 ml of 1/1 hex conc HNO₃ in each sample.

Lab 5/15/80

5/27/80 008

ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC DATA FORM

13 OF 21

CRICK EDO 5011

Sampling Date 05 00 Lab Arrival Date 15 05 80 Analysis Due Date 15 11 80
Year Month Year Day Month Year Day Month Year

WELL N-305

ACTIVITY ICP 17

Study TACK WESB SITC

Sediment Samples

Data Set 514

Detector No.	01068	01093	01003	01148								
ICP Sample Log Number	Hg Mud Dry Wt	Zn Mud Dry Wt	As Mud Dry Wt	Se Mud Dry Wt	Hy MUD DRY WT	ICP P METALS MUD						
DEWGT Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg							
S014		v			1	K0.1						
S015		v			v	0.05						
S016		v			v	0.03						
S017		v			v	0.11						
S018		v			v	0.10	v					
						VR						
						5/27/80						

* Analyzed as leachate. sample cannot be homogenized

Code 7-5 plastic samples stored in ice bath 102°F refrigerating.

~~FORM 6~~ ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC DATA FORM

~~RECORDED~~ DIVISION/BRANCH EDO SCA

DIVISION/BRANCH
D.U. NUMBER D-305

Sampling Date 15 5 80
Day Month Year

Lab Arrival Date 15 5 80
Day Month Year

Analysis Due Date 11/5/13
Day Month

D.U. NUMBER H-305

ACTIVITY A.C.R. 17

Day Month Year

Study Factor $\omega^2 B^2 S$

Sediment Samples

ACTIVITY ACK
Data Set 574

Study File No. 15185

ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC DATA FORM

18 of 2

Cawley

DIVISION/BRANCH EDO SEA Sampling Date 2 5 80 Lab Arrival Date 15 5 80 Analysis Due Date ASN/P
 D.U. NUMBER 0-305 Day Month Year Day Month Year Day Month Year Day Month Year

ACTIVITY

RCK'A

Study JACK UJ-138 SITE

Date 10/5/84 All units are (micrograms per liter) or milligrams per kilogram

Water *	39458	39492	39496	39500	39504	39508			39110	39100		
CRL Sample Log Number	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Dibutyl Phthalate	Diethyl Hexyl Phthalate	PCB	GC-MS
Sediment *	39491	39495	39499	39503	39507	39511			39112	39102		
1 S01		K1	K1	K1	K1						✓	✓
2 S02		K5	K5	K5	K5						✓	✓
3 D03		K5	K5	K5	K5						✓	✓
4 S07						TcJ	7-2-B-8m					✓
5 S10												✓
6												
7 S04												✓
8 S05												✓
9 S06												✓
10 S07												✓
11 S08												✓
12												
13												

Code 3 EMDR S01-S02-D03 Lane 2 Water samples one pt PCB's and one pt GCMS

EWR S07-S10 water sample for GC/MS only.

Code 3-5 Sludge fine all samples stored receiving room 1029 regeneration.

*k out set of parameter numbers not used.

SEDIMENT samples

ENVIRONMENTAL PROTECTION AGENCY, REGION V BASIC DATA FORM

18 of 2

Cutterdy

DIVISION/BRANCH EDO SEA

Sampling Date 9 5 80 Lab Arrival Date 15 5 80 Analysis Due Date ASAP
Day Month Year Day Month Year Day Month Year

D.U. NUMBER 0-305

ACTIVITY

PCRA

Study JACK 47-13B SITE

Day Month

Data lot 514 All units are micrograms per liter or (milligrams per kilogram.)

Water	39488	39492	39496	39500	39504	39508			39110	39100		
CRL Sample Log Number	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Dibutyl Phthalate	Diethyl Hexyl Phthalate	PCB	GC-MS
Sediment	*	39491	39495	39499	39503	39507	39511		39112	39102		
1	S01											
2	S02											
3	S03											
4	S07											
5	S10											
6												
7	S04	K1	K1	K1	K1							
8	S05	K10%	K10%	K5%	K5%							
9	S06	K1.5	K1.5	7.0	K1.5							
0	S07	K2	K2	K2	K2							
1	S08	K5	K5	K5	K5							
2						TCL - 7-2.8 - 80						
3												
4	Code 3 EMA 8501-502-003 have 2 water samples one for PCB's and one for GC/MS											
5	EMA 8501-510 water sample for GC/MS only.											
6	Code 3-5 Sludge from all samples stored receiving room 1029 refrigerators.											

* Out set of parameter numbers not used

SAMPLES LITERALS

3. OCTOBER 12, 1980 (DEPA RESULTS)

ChicEPA Inter-Office Communication

TO: Don Schwaderer, Senior Deputy Director

DATE: 1/5/81

FROM: Ken M. Harsh, Assistant Chief, FR

SUBJECT: Rock Creek Samples

The GC-MS sample report [composite of 76 drums taken 10-12-80] shows around 130 - 200 individual compounds, most of which are substituted hydrocarbons, aromatics, ketones, alcohols, polynuclear aromatics, hydrocarbons, nitrogenous, chlorinated and sulfur substituted compounds.

Some of the compounds have low flash points, and are experimental carcinogenic or neoplastic agents. Most are not highly toxic, but some of the nitrogenous and chlorinated compounds (5-8) are fairly toxic ($\sim 100 \text{ mg/kg LD}_{50}$, oral rat). Tabulating results of compounds are as follows: (See following pages for largest compounds)

1. Polycyclic or polynuclear aromatics	31
2. Substituted or straight chain Hydrocarbon	27
3. Miscellaneous	15
4. Alcohols	14
5. Aromatic	13
6. Amine	12
7. Cyclic or substituted cyclic	9
8. Chlorinated	4
9. Oxygen containing + ketone	5

Based upon an approximate quantification standard (D. Anthracene) which may differ from actual concentration as much as 500% following are the compounds in highest concentration at Rock Creek based upon a composite of 76 drums taken by Jim Irwin, Mike Dalton and Ken Harsh.

<u>> 1%</u> (10,000 ppm)	<u>ppm</u>	<u>%</u>	<u>f.p. F</u>	<u>mg/kg (LD₅₀, oral rat)</u>
1. 1-Ethenyl-3-methylene cyclopentene	35549	3.55		
2. G-nitro 2-picoline	22800	2.28	102	790
3. 2-Propen-1-amine	15604	1.56	20	106
4. 4-Methyl 2-pantanone	14132	1.4		
5. 2-Ethoxy -ethanol acetate	9438	0.9		
<u>> 1000 ppm .1%</u>				
6. Acetic Acid, Butylester	8613	.86	72	14000
7. Trichlorethane	7865	.78	35	1140
8. Tetrachloroethene	5130	.51	-	200
9. Trimethyloxirane	5041	.50	-	-
10. 2-Propyl 1-Heptanol	4220	.42	-	6730

	<u>ppm</u>	<u>%</u>	<u>f.p.</u>	<u>F</u>	(LD ₅₀)	mg/kg oral rat
11. C ₆ H ₆	3145	.31	-	-	-	
12. Benzoic Acid, methyl ester	3140	.31	-	-	-	
13. Cyclohexane	3083	.31	4.6 ms		1297	
14. C ₆ H ₆	2977	-29	-	-	-	
15. Anthracene	1403	-14	250		Car	
16. 2-Hexanone	1397	-14	95		2590	
17. Decane	1288	-13	115		-	
18. 2-Methyl Naphthalene	1104	.11	-		High?	
19. Trichlorethane & Tetrachlorethane	1032	.10	-		1140/200	
20. 1,2-Dihydro-acenaphthylene	1010	.1	-		-	
 > 500 ppm 0.05%						
21. Dibenzofuran (diphenyleneoxide)	828	.08	-	-	-	
22. (1-methylethyl) Benzene	784	.08	-	-	-	
23. Heptadecane	772	.08	-	-	-	
24. 2-propyl-Heptanol	603	.06	-		6730	
25. 4-methyl Nonane	594	.06	-		-	
26. Phenol	588	.06	175		414	
27. 4,5 Dihydro-2,4-Dimethyl 1-H-Imidazole	583	.06	-		-	
28. 1-Chloro-2-methyl benzene	574	.06	126		-	
 > 250 ppm .025%						
29. 1-Ethyl-3methyl benzene	487	.05	-	-	-	
30. Fluoranthene	457	.05	-		-	
31. 2-methyl naphthalene	427	.04	-		High	
32. Benzothiophene	380	.04	-		High?	
33. 1,1 -Biphenyl	366	.04	235		3280	
34. Pentacosane	360	.04	-		-	
35. Ethylcyclohexane	338	.03	95		-	
36. Pyrene	304	.03	-		Neo	
37. 2-6-Dimethylnonane	269	.03	-		-	
38. 2,3-Dimethylpentane	266	.03	20		Med	
39. 1,2,4-Trimethyl Benzene	254	.03	-		5000	
 > 100 ppm .01%						
40. 9-H Fluorene	235	.02	-		Neo	
41. 2-Cyclohexyldecane	222	.02	-		-	
42. Phenanthrene	166	.02	-		700, Car	
43. 1-8 Dimethyl Naphthalene	166	.02	-		-	
44. 3-Ethyl 2-methyl heptane	166	.02	-		-	
45. Heneicosane	149	.01	-		-	
46. 4,8-Dimethylnonanol	145	.01	-		-	

		<u>ppm</u>	<u>%</u>	<u>f.p.</u>	<u>F</u>	(LD	<u>mg/kg</u>	oral rat)
>100 ppm	.01%							
47.	6-methylheptyl ester 2-acrylic acid	136	.01	-	-		-	
48.	2,6-Dimethyl Naphthalene	114	.01	-	-		-	
49.	Isoquinoline	103	.01	-	-		350	
50.	1-propenyl cyclohexane	100	.01	-	-		-	

These results were what I expected based upon visual observations while sampling, most of the drums are resins, rubber resins, solvents, oils, paint solvents, with some odoriferous sulfur/nitrogenated compounds.

Most of the drums contain compounds which are more of a fire hazard than a severe toxicological hazard. There are some carcinogenic, neoplastic materials on site but nothing of pesticidal origin.

No PCB's at concentrations over 10 ppm were detected. This is of course does not preclude their presence at very minute levels or in some of the drums not included in this representative random sample.

KMH/sk

cc: Lynn Clark, NEDO, OLPC
Kenneth A. Schultz, Chief, ER
Mike Shapiro, Legal
Al Franks, PIC
Jim Irwin, NEDO, ER
Mike Dalton, CO, ER

4. OCTOBER 12, 1980 (U.S. EPA RESULTS)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

To:

EMERGENCY
RESPONSE

DATE: October 28, 1980

SUBJECT: Section 311 Analysis of Samples Collected at Jack Webb-Rock Creek on October 12, 1980

FROM: Curtis Ross, Director *C.R.*
Central Regional Laboratory

TO: Richard Bartelt, Chief
Environmental and Emergency Investigations Branch

The volatile fractions of the subject samples have been analyzed and found to contain several compounds designated in Section 311 as shown in Table I..

Crude estimations on the concentrations of these compounds are also included. It should be noted that there may be other Section 311 compounds which are not reported.

TABLE I

Section 311 Compounds Detected In Samples
Collected at Jack Webb-Rock Creek on
October 12, 1980

(EEIB 374)

<u>Sample Number</u>	<u>Description</u>	<u>Section 311 Compounds and Crude Estimation of concentrations (%)*</u>
81-VK04S01	Oil waste drum	Trichloroethane (>0.01), Toluene (>0.01)
81-VK04S02	Hughson Chemical drum	Toluene (>0.01)
81-VK04S03	Solvent drum	Trichloroethane (>0.0001), Xylene (>0.0001)
81-VK04S04	Resin drum	Toluene (>0.001), Ethylbenzene (>0.001)
81-VK04S05	Miscellaneous drum	Toluene (>0.01), Ethylbenzene (>0.01)

* Based on peak heights of these compounds with respect to that of bromochloromethane, the internal standard used.

FINAL REPORT

DATA FILE FRN: 6929

NAME: 81-T017 (81-VK04801) FV 100ML 1UL
MISC DATA: 2-5-81

IDFILE FRN: 4603

IDFILE NAME: BASE-NEUTRAL ANALYSIS
MISC DATA:

	NAME	CONCENTRATION (MG/KG)
STANDARD	I-10 PHENANTHRENE	65900
1	1,3-DICHLOROBENZENE	LESS THAN 13.5
2	1,4-DICHLOROBENZENE	LESS THAN 11.8
3	HEXACHLOROETHANE	LESS THAN 27.2
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 13.6
5	N-NITROSODIPROPYLAMINE	LESS THAN 49.9
6	NITROBENZENE	LESS THAN 15.9
7	ISOPHORONE	LESS THAN 9.5
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 14.0
9	1,2-DICHLOROBENZENE	LESS THAN 11.6
10	1,2,4-TRICHLOROBENZENE	LESS THAN 11.9
11	NAPHTHALENE	8800
12	HEXACHLOROBUTADIENE	LESS THAN 20.2
13	2-CHLORONAPHTHALENE	LESS THAN 7.2
14	ACENAPHTHYLENE	LESS THAN 5.6
15	DIMETHYLPHthalate	LESS THAN 7.7
16	2,6-DINITROTOLUENE	LESS THAN 49.2
17	ACENAPHTHENE	2250
18	2,4-DINITROTOLUENE	LESS THAN 31.7
19	FLUORENE	LESS THAN 7.8
20	4-CHLOROPHENYLPHENYL ETHER	LESS THAN 13.3
21	DIETHYLPHthalate	LESS THAN 9.4
22	1,2-DIPHENYLHYDRAZINE	LESS THAN 41.4
23	N-NITROSODIPHENYLAMINE	LESS THAN 12.4
24	4-BROMOPHENYLPHENYL ETHER	LESS THAN 25.3
25	HEXACHLOROBENZENE	LESS THAN 21.3
26	PHENANTHRENE	LESS THAN 4.4
27	ANTHRACENE	LESS THAN 4.4
28	FLUORANTHENE	LESS THAN 11.3
29	PYRENE	LESS THAN 11.2
30	DI-N-BUTYLPHthalate	24800
31	BUTYL BENZYLPHthalate	LESS THAN 12.7
32	CHRYSENE	LESS THAN 13.4
33	BENZO(A)ANTHRACENE	LESS THAN 13.8
34	BIS(2-ETHYLHEXYL)PHthalate	LESS THAN 25.1
35	DI-N-OCTYLPHthalate	LESS THAN 25.0
36	BENZO(B)FLUORANTHENE	LESS THAN 35.5
37	BENZO(A)PYRENE	LESS THAN 66.0
38	INDENO(1,2,3-C,D)PYRENE	LESS THAN 22.9
39	DIBENZO(A,H)ANTHRACENE	LESS THAN 48.1
40	BENZO(G,H,I)PERYLENE	LESS THAN 204.3
41	DIBROMOBIPHENYL (ISTD)	LESS THAN 29.2
42	1-CHLORONAPHTHALENE	LESS THAN 7.2

3.6

FINAL REPORT

S DATA FILE FRN: 6929

NAME: S1-T017 S1-VK04S01 FV 100ML 1UL
MISC DATA: 2-5-81

IDFILE FRN: 4601

IDFILE NAME: ACID ANALYSIS
MISC DATA:

	NAME	CONCENTRATION (MG/KG)
STANDARD	D-10 PHENANTHRENE	65900
1	2-NITROPHENOL	LESS THAN 25.9
2	2-CHLOROPHENOL	LESS THAN 14.5
3	PHENOL	48800
4	2,4-DIMETHYLPHENOL	LESS THAN 18.3
5	2,4-DICHLOROPHENOL	LESS THAN 12.6
6	P-T-BUTYLPHENOL	LESS THAN 8.5
7	P-CHLORO-M-CRESOL	LESS THAN 18.6
8	2,4,6-TRICHLOROPHENOL	LESS THAN 14.8
9	PENTACHLOROPHENOL	LESS THAN 467.0
10	4-NITROPHENOL	Less Than 305.0

ORGANIC SCAN: DATA SET EEIB 374

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CRL SAMPLE NUMBER 81-VK04501

(UNITS ARE MG/KG)

ESTIMATED
CONCENTRATION (BASED ON
INTERNAL RESPONSE)

COMPOUND

COMPOUND	ESTIMATED CONCENTRATION (BASED ON INTERNAL RESPONSE)
1,3-BUTADIENE (3 ISOMERS)	118000.
1-CHLORO-2-METHYLBENZENE	29000
2-ETHOXY-ETHANOL ACETATE	25000
1,2-DIMETHYLNAPHTHALENE (2 ISOMERS)	25000
DIBENZOFURAN	15000
MINIMUM DETECTION LEVEL	3600

21
4.9
3.6
29.5

FINAL REPORT

DATA FILE FRN: 7404

NAME: T017 81-VK04802 DF 100
MISC DATA: 1-14-81 BTL#5 07404

07404

IDFILE FRN: 4600

IDFILE NAME: BASE/NEUTRAL ANALYSIS
MISC DATA:

	NAME	CONCENTRATION (MG/KG)
STANDARD	D-10 PHENANTHRENE	33000
1	1,3-DICHLOROBENZENE	LESS THAN 2.8
2	1,4-DICHLOROBENZENE	LESS THAN 2.4
3	HEXACHLOROETHANE	LESS THAN 5.6
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 4.5
5	N-NITROSODIPROPYLAMINE	LESS THAN 20.3
6	NITROBENZENE	LESS THAN 152.9
7	ISOPHORONE	LESS THAN 3.0
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 9.0
9	1,2-DICHLOROBENZENE	LESS THAN 2.4
10	1,2,4-TRICHLOROBENZENE	LESS THAN 3.0
11	NAPHTHALENE	88200
12	HEXACHLOROBUTADIENE	LESS THAN 520.0
13	2-CHLORONAPHTHALENE	LESS THAN 2.1
14	ACENAPHTHYLENE	3900
15	DIMETHYLPHthalATE	LESS THAN 2.2
16	2,6-DINITROTOLUENE	LESS THAN 12.4
17	ACENAPHTHENE	31400
18	2,4-DINITROTOLUENE	LESS THAN 650.0
19	FLUORENE	15400
20	4-CHLOROPHENYLPHENYL ETHER	LESS THAN 5.3
21	DIETHYLPHthalATE	LESS THAN 2.7
22	1,2-DIPHENYLHYDRAZINE	LESS THAN 7.6
23	N-NITROSODIPHENYLAMINE	LESS THAN 5.4
24	4-BROMOPHENYLPHENYL ETHER	LESS THAN 12.4
25	HEXACHLOROBENZENE	LESS THAN 11.4
26	PHENANTHRENE, or	111700
27	ANTHRACENE	
28	FLUORANTHENE	13000
29	PYRENE	13200
30	DI-N-BUTYLPHthalATE	LESS THAN 2.3
31	BUTYL BENZYLPHthalATE	LESS THAN 18.2
32	CHRYSENE	LESS THAN 6.7
33	BENZO(A)ANTHRACENE	LESS THAN 6.6
34	BIS(2-ETHYLHEXYL)PHTHALATE	LESS THAN 15.0
35	DI-N-OCTYLPHthalATE	LESS THAN .4
36	BENZO(B)FLUORANTHENE	LESS THAN 14.1
37	BENZO(A)PYRENE	LESS THAN 26.3
38	INDENO(1,2,3-C,D)PYRENE	LESS THAN 9.1
39	DIBENZO(A,H)ANTHRACENE	LESS THAN 19.1
40	BENZO(G,H,I)PERYLENE	LESS THAN 81.3
41	DIBROMOBIPHENYL	LESS THAN 16.1
42	1-CHLORONAPHTHALENE	LESS THAN 2.1

ORGANIC SCAN: DATA SET EEIB 374

==

CRL SAMPLE NUMBER 81-VK04502

(UNITS ARE MG/KG)

ESTIMATED
CONCENTRATION (BASED ON
INTERNAL STD RESPONSE)

COMPOUND

METHYL NAPHTHALENE (2 ISOMERS)

140000.

1 IBENZOFURAN

35000.

MINIMUM DETECTION LEVEL

4800

FINAL REPORT

DATA FILE FRN: 7600

NAME: VKD4903
MISC DATA: 1-21-81

IDFILE FRN: 4600

IDFILE NAME: BASE/NEUTRAL ANALYSIS
MISC DATA:

STANDARD	NAME	CONCENTRATION (MG/KG)
	D-10 PHENANTHRENE	17240
1	1,3-DICHLOROBENZENE	LESS THAN 63.0
2	1,4-DICHLOROBENZENE	LESS THAN 55.2
3	HEXACHLOROETHANE	LESS THAN 127.8
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 102.5
5	N-NITROSODIPROPYLAMINE	LESS THAN 461.1
6	NITROBENZENE	LESS THAN 3471.8
7	ISOPHORONE	LESS THAN 67.1
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 204.9
9	1,2-DICHLOROBENZENE	LESS THAN 54.1
10	1,2,4-TRICHLOROBENZENE	LESS THAN 67.5
11	NAPHTHALENE	1660
12	HEXACHLOROBUTADIENE	LESS THAN
13	2-CHLORONAPHTHALENE	LESS THAN 47.9
14	ACENAPHTHYLENE	LESS THAN 44.3
15	DIMETHYLPHthalATE	LESS THAN 50.0
16	2,6-DINITROTOLUENE	LESS THAN 281.1
17	ACENAPHTHENE	400
18	2,4-DINITROTOLUENE	LESS THAN 281.1
19	FLUORENE	LESS THAN 62.8
20	4-CHLOROPHENYLPHENYL ETHER	LESS THAN 120.5
21	DIETHYLPHthalATE	LESS THAN 60.7
22	1,2-DIPHENYLHYDRAZINE	LESS THAN 173.6
23	N-NITROSODIPHENYLAMINE	LESS THAN 121.9
24	4-BROMOPHENYLPHENYL ETHER	LESS THAN 282.4
25	HEXACHLOROBENZENE	LESS THAN 258.9
26	PHENANTHRENE	6700
27	ANTHRACENE	or
28	FLUORANTHENE	LESS THAN 99.5
29	PYRENE	LESS THAN 2682.8
30	DI-N-BUTYLPHthalATE	LESS THAN 52.0
31	BUTYL BENZYLPHthalATE	LESS THAN 412.7
32	CHRYSENE	LESS THAN 151.7
33	BENZO(A)ANTHRACENE	LESS THAN 149.8
34	BIS(2-ETHYLHEXYL)PHthalATE	LESS THAN 341.2
35	DI-N-OCTYLPHthalATE	LESS THAN 9.3
36	BENZO(B)FLUORANTHENE	LESS THAN 320.8
37	BENZO(A)PYRENE	LESS THAN 596.2
38	INDENO(1,2,3-C,D)PYRENE	LESS THAN 206.4
39	DIBENZO(A,H)ANTHRACENE	LESS THAN 434.0
40	BENZO(G,H,I)PERYLENE	LESS THAN 1844.4
41	DIBROMOBIPHENYL	LESS THAN 366.6
42	1-CHLORONAPHTHALENE	LESS THAN 47.9

FINAL REPORT

DATA FILE FRN: 7600

NAME: VK04303
MISC DATA: 1-21-81

IDFILE FRN: 4601

IDFILE NAME: ACID ANALYSIS
MISC DATA:

	NAME	CONCENTRATION (MG/KG)
STANDARD	D-10 PHENANTHRENE	17240
1	2-NITROPHENOL	LESS THAN 225.3
2	2-CHLOROPHENOL	LESS THAN 67.2
3	PHENOL	LESS THAN 67.1
4	2,4-DIMETHYLPHENOL	LESS THAN 121.8
5	2,4-DICHLOROPHENOL	LESS THAN 135.7
6	P-T-BUTYLPHENOL	LESS THAN 60.8
7	P-CHLORO-M-CRESOL	LESS THAN 110.9
8	2,4,6-TRICHLOROPHENOL	LESS THAN 457.5
9	PENTACHLOROPHENOL	LESS THAN 215.8
10	4-NITROPHENOL	LESS THAN 377.6

ORGANIC SCAN: DATA SET EEIB 374

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CRL SAMPLE NUMBER 81-VK04603

(UNITS ARE MG/KG)

COMPOUND

ESTIMATED
CONCENTRATION (BASED
INTER-
STOLES)

BENZOIC ACID, METHYL ESTER	84000.
METHYL NAPHTHALENE (1 ISOMER)	800
DIBENZOFURAN	2100
MINIMUM DETECTION LEVEL	800

FINAL REPORT

DATA FILE FRN: 7107

NAME: 1-13-81

MISC DATA: 81-VKo4So4

BTL#3 07107

D7107

IDFILE FRN: 4600

IDFILE NAME: BASE/NEUTRAL ANALYSIS

MISC DATA:

	NAME	CONCENTRATION (MG/L)
STANDARD	D-10 PHENANTHRENE	3274-
1	1,3-DICHLOROBENZENE	LESS THAN 24.3
2	1,4-DICHLOROBENZENE	LESS THAN 21.3
3	HEXACHLOROETHANE	LESS THAN 38.4
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 26.5
5	N-NITROSODIPROPYLAMINE	LESS THAN 119.3
6	NITROBENZENE	LESS THAN 898.4
7	ISOPHORONE	LESS THAN 17.1
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 50.1
9	1,2-DICHLOROBENZENE	LESS THAN 20.9
10	1,2,4-TRICHLOROBENZENE	LESS THAN 16.2
11	NAPHTHALENE	LESS THAN 5.4
12	HEXACHLOROBUTADIENE	LESS THAN 45.3
13	2-CHLORONAPHTHALENE	LESS THAN 11.8
14	ACENAPHTHYLENE	LESS THAN 13.9
15	DIMETHYLPHthalate	LESS THAN 12.2
16	2,6-DINITROTOLUENE	LESS THAN 449.2
17	ACENAPHTHENE	LESS THAN 9.5
18	2,4-DINITROTOLUENE	LESS THAN 108.3
19	FLUORENE	LESS THAN 13.5
20	4-CHLOROPHENYLPHENYL ETHER	LESS THAN 31.2
21	DIETHYLPHthalate	LESS THAN 16.1
22	1,2-DIPHENYLHYDRAZINE	LESS THAN 48.9
23	N-NITROSODIPHENYLAMINE	LESS THAN 29.9
24	4-BROMOPHENYLPHENYL ETHER	LESS THAN 73.1
25	HEXACHLOROBENZENE	LESS THAN 65.3
26	PHENANTHRENE	LESS THAN 39.7
27	ANTHRACENE	LESS THAN 37.0
28	FLUORANTHENE	LESS THAN 29.0
29	PYRENE	LESS THAN 29.0
30	DI-N-BUTYLPHthalate	3387
31	BUTYL BENZYLPHthalate	LESS THAN 144.1
32	CHRYSENE	LESS THAN 46.6
33	BENZO(A)ANTHRACENE	LESS THAN 46.6
34	BIS(2-ETHYLHEXYL)PHthalate	LESS THAN 88.3
35	DI-N-OCTYLPHthalate	LESS THAN 2.4
36	BENZO(B)FLUORANTHENE	LESS THAN 83.0
37	BENZO(A)PYRENE	LESS THAN 154.3
38	INDENO(1,2,3-C,D)PYRENE	LESS THAN 53.4
39	DIBENZO(A,H)ANTHRACENE	LESS THAN 112.3
40	BENZO(G,H,I)PERYLENE	LESS THAN 477.3
41	DIBROMOBIPHENYL	LESS THAN 306.0
42	1-CHLORONAPHTHALENE	LESS THAN 11.8

FINAL REPORT

MS DATA FILE FRN: 7107

NAME: T017 81-VK04804

MISC DATA: 1-13-81

IDFILE FRN: 4601

IDFILE NAME: ACID ANALYSIS

MISC DATA:

	NAME	CONCENTRATION (MG/L)
STANDARD	D-10 PHENANTHRENE	3274
1	2-NITROPHENOL	LESS THAN 57.9
2	2-CHLOROPHENOL	LESS THAN 17.3
3	PHENOL	LESS THAN 17.3
4	2,4-DIMETHYLPHENOL	LESS THAN 3035.0
5	2,4-DICHLOROPHENOL	LESS THAN 34.9
6	P-T-BUTYLPHENOL	LESS THAN 15.6
7	P-CHLORO-M-CRESOL	LESS THAN 28.5
8	2,4,6-TRICHLOROPHENOL	LESS THAN 117.6
9	PENTACHLOROPHENOL	LESS THAN 1083.9
10	4-NITROPHENOL	LESS THAN 1896.9

ORGANIC SCAN: DATA SET EEIB 374

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CRL SAMPLE NUMBER 81-VK04304

(UNITS ARE MG/KG)

ESTIMATED
CONCENTRATION (BASED ON
INTERNAL STD RESPONSE)

COMPOUND

6-BIS(1,1-DIMETHYLETHYL)PHENOL 174000.

MINIMUM DETECTION LEVEL 115000.

FINAL REPORT

MS DATA FILE FRN: 7304

NAME: 81-T017 81-VK04805 FV 8000
MISC DATA: 1-15-81 BTL#13 07304

D7304

IDFILE FRN: 4600

IDFILE NAME: BASE/NEUTRAL ANALYSIS
MISC DATA:

	NAME	CONCENTRATION (MG/L)
STANDARD	D-10 PHENANTHRENE	1379.0
1	1,3-DICHLOROBENZENE	LESS THAN 14.2
2	1,4-DICHLOROBENZENE	LESS THAN 12.4
3	HEXACHLOROETHANE	LESS THAN 17.6
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 19.4
5	N-NITROSODIPROPYLAMINE	LESS THAN 38.5
6	NITROBENZENE	LESS THAN 13.4
7	ISOPHORONE	LESS THAN 9.4
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 24.2
9	1,2-DICHLOROBENZENE	LESS THAN 12.2
10	1,2,4-TRICHLOROBENZENE	LESS THAN 8.8
11	NAPHTHALENE	3021.0
12	HEXACHLOROBUTADIENE	LESS THAN 21.1
13	2-CHLORONAPHTHALENE	LESS THAN 6.9
14	ACENAPHTHYLENE	647
15	DIMETHYLPHthalate	LESS THAN 7.9
16	2,6-DINITROTOLUENE	LESS THAN 26.6
17	ACENAPHTHENE	26.5
18	2,4-DINITROTOLUENE	LESS THAN 53.1
19	FLUORENE	582.8
20	4-CHLOROPHENYLPHENYL ETHER	LESS THAN 17.7
21	DIETHYLPHthalate	LESS THAN 332.8
22	1,2-DIPHENYLHYDRAZINE	LESS THAN 27.0
23	N-NITROSODIPHENYLAMINE	LESS THAN 16.9
24	4-BROMOPHENYLPHENYL ETHER	LESS THAN 43.0
25	HEXACHLOROBENZENE	LESS THAN 38.3
26	PHENANTHRENE or	5805.0
27	ANTHRACENE or	
28	FLUORANTHENE	733.7
29	PYRENE	742.3
30	DI-N-BUTYLPHthalate	LESS THAN 6.3
31	BUTYL BENZYLPHthalate	LESS THAN 38.8
32	CHRYSENE	LESS THAN 20.8
33	BENZO(A)ANTHRACENE	LESS THAN 20.8
34	BIS(2-ETHYLHEXYL)PHTHALATE	LESS THAN 22.2
35	DI-N-OCTYLPHthalate	LESS THAN 1.4
36	BENZO(B)FLUOANTHENE	LESS THAN 47.0
37	BENZO(A)PYRENE	LESS THAN 87.4
38	INDENO(1,2,3-C,D)PYRENE	LESS THAN 30.3
39	DIBENZO(A,H)ANTHRACENE	LESS THAN 63.6
40	BENZO(G,H,I)PERYLENE	LESS THAN 270.4
41	DIBROMOBIPHENYL	LESS THAN 62.7
42	1-CHLORONAPHTHALENE	LESS THAN 6.9

FINAL REPORT

S DATA FILE FRN: 7304

NAME: 81-T017 81-VK04S05 FV 0000
MISC DATA: 1-15-81 BTL#13 Q7304 D7304

IDFILE FRN: 4601

IDFILE NAME: ACID ANALYSIS
MISC DATA:

	NAME	CONCENTRATION
		(MG/L)
STANDARD	D-10 PHENANTHRENE	1379.0
1	2-NITROPHENOL	LESS THAN 33.0
2	2-CHLOROPHENOL	LESS THAN 9.8
3	PHENOL	LESS THAN 9.8
4	2,4-DIMETHYLPHENOL	LESS THAN 16.0
5	2,4-DICHLOROPHENOL	LESS THAN 19.9
6	P-T-BUTYLPHENOL	LESS THAN 8.9
7	P-CHLORO-M-CRESOL	LESS THAN 16.2
8	2,4,6-TRICHLOROPHENOL	LESS THAN 67.0
9	PENTACHLOROPHENOL	LESS THAN 16.9
10	4-NITROPHENOL	LESS THAN 79.6

ORGANIC SCAN: DATA SET EEIB 374

====

CRL SAMPLE NUMBER 81-VK04805

(UNITS ARE MG/KG)

Estimated
CONCENTRATION (BASED ON
INTERNAL
STD Response)

COMPOUND

XYLENE (2 ISOMERS)	14000
METHYLNAPHTHALENE (2 ISOMERS)	7500
1-METHYLNAPHTHALENE (3 ISOMERS)	1100
DIBENZOFURAN	1400
MINIMUM DETECTION LEVEL	230

5. K-V ASSOCIATES RESULTS

GROUNDWATER STUDY

JACK WEBB DUMP SITE

Rock Creek, Ohio

January, 1981

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY

EMERGENCY SPILL RESPONSE SECTION

Region V

Cleveland, Ohio

Prepared by

K-V ASSOCIATES, INC.

281 Main St.

Falmouth, Massachusetts 02540

December, 1980

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EXECUTIVE SUMMARY

During two periods, on November 21 through 24 and on January 1 through 4, K-V Associates, Inc. investigated the extent of subsurface contamination of groundwater in the immediate vicinity of the Jack Webb Dump Site near the town of Rock Creek, Ohio. Groundwater observation holes were excavated in 17 locations on-site and 16 locations near-site and down stream of the dominant flow direction. Surface water samples were also obtained on-site following a short rainfall during November, and near a conduit crossing the site during both November and January observations.

Surface water and groundwater investigations clearly documented discharges of aromatic organics from the Rock Creek site. The November survey clearly showed three regions of elevated aromatic compounds in groundwater near the entrance to the conduit (26, 2), in the region of drums stored near the silos (11, 20), and in a region of drums stored close to the buried conduit (2, 3, 4). During the January visit, a discharge was entering the conduit system and flowing into the stream.

Groundwater measurements obtained on-site showed a complex groundwater movement, depending upon location. Regions in the vicinity of the conduit drained towards the conduit during dry weather and discharged away during storm periods, indicating either the conduit was leaky or the disturbed till from the excavation containing the conduit was acting as a more permeable flow channel. The remaining flow proceeded in a westerly direction towards the old railroad bed and then across a wetlands field towards the stream bed.

Groundwater contamination was apparent near the silo area and extending outwards to the old railroad bed and slightly beyond. Excavations near the

old railroad bed (7, 59, 60) encountered gravel or slag stone, presumably used in roadbed construction. Noticeable odor and organic sheens were present in all holes, indicating that seepage from the site had entered the highly permeable roadbed and was dispersing outwards. The tendency for groundwater flow to proceed in the direction of the silos, rather than immediately towards the streambed, indicates more permeable deposits in that direction in contact with the roadbed. This was confirmed with soil cores.

Samples of groundwater and surface water were scanned for aromatic fluorescent organics. Elevated samples were further extracted with hexane and compared with known luminescent signatures of hazardous materials developed by the Coast Guard Research and Development Center, Avery Point, Groton, Connecticut.

Waste discharges are currently escaping the boundaries of the site and represent a potential health threat to downstream residential neighborhoods. The intermittent nature of the discharges to the stream has been clearly established, but further study should be done on the extent of movement of subsurface leachate that has invaded the railroad bed. Sampling and analysis of the source areas should be pursued rapidly to identify the precise nature of the organic compounds.

FINAL REPORT

Project No. 210012

1.0 INTRODUCTION

On November 21, 1981, K-V Associates, Inc. was contracted by the U.S. Environmental Protection Agency of Region V under a Section 311 action for emergency service for geohydrologic consultation and field study to determine the direction and rate of groundwater flow in and around the Jack Webb property, Rock Creek, Ohio and to locate any plumes of organic material leaching from chemical wastes associated with the dumpsite area and reaching surface water outlets. The analytical services included the following tasks:

General: Obtain geohydrologic information to determine whether (toxic) organic chemicals are leaching from drums into the groundwater and eventually into navigable or recreational surface waters.

Specifically:

1. Determine the direction of shallow groundwater flow beneath the dumpsite from at least 15 dug-hole locations (less than 10 feet deep). Examine soil profile vertically for flow potential at different horizontal layers and measure the direction and rate of such flow.

2. Collect surface and groundwater samples from around the site and screen by UV fluorescence first, in the field, and later with a scanning spectrofluorometer for evidence of chemical plume migration.

a. Take groundwater samples from measurement holes; sample deeper water bearing zones with the well point if the soils permit.

b. Take surface water samples from all streams running through or around the study area.

c. Additional sampling sites may be chosen to further bracket areas of plume emergence.

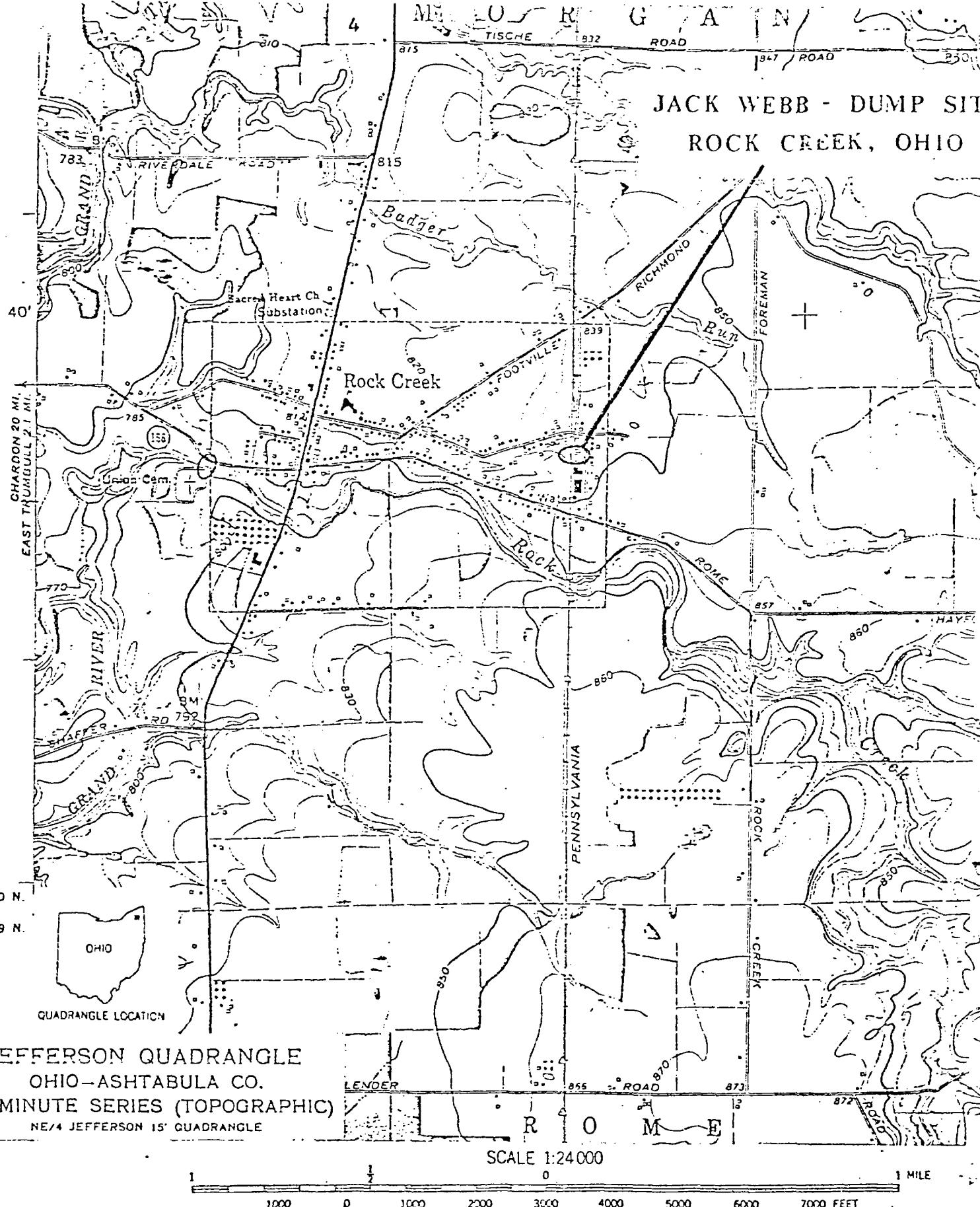


Figure 1. Overview of Rock Creek Site

3. Prepare a brief but comprehensive report of findings.
 - a. Map direction of groundwater flow and directions of any leachate flows from the site. Show all sampling locations.
 - b. Describe methods and conclusions.

Site Characteristics

The Jack Webb Site consists of an abandoned railroad depot-grain storage facility with accessory building on a rectangular lot of the town of Rock Creek, Ohio. The site is centered in a residential area adjacent to an aluminum castings firm. A small perennial stream crosses under the site and flows westward to join Rock Creek. Discarded drums are visible near the silos to the north of the grain mill and to its south. Drums are also present inside two storage buildings to the east and southeast of the grain mill. Previous chemical analysis of the volatile fractions of samples collected from drums and nearby ground have shown trichloroethane, toluene, xylene and ethylbenzene (EEIB 374; Oct. 12, 1980). PCB's and phenol have been detected in samples analyzed for polychlorinated biphenyl (PCB's) and "non-purgeable" organics using gas chromatography with electron capture detection and GC/MS/DS (CRL; Aug. 4, 1980).

Initially, twenty soil borings were made on the site to determine the characteristics of the substratum. Three types of soils occurred on the site a) disturbed fill, b) stratified cinder/loam/gravel and c) silty loam wetlands. Generally, cores taken from the central regions of the site revealed a porous cinder layer extending to about 1 foot below grade, underlain by a 2 to 3 foot width of sandy or silty loam, underlain by a permeable sand and gravel region. Soils in the vicinity of the newly-installed conduit which runs between the site and C.E. Aluminum Castings were disturbed down to the level of the drainage pipe. Thirdly, samples obtained on the western

SURFACE AND GROUNDWATER SAMPLING SITES

Jack Webb - Dump Site
Rock Creek, Ohio

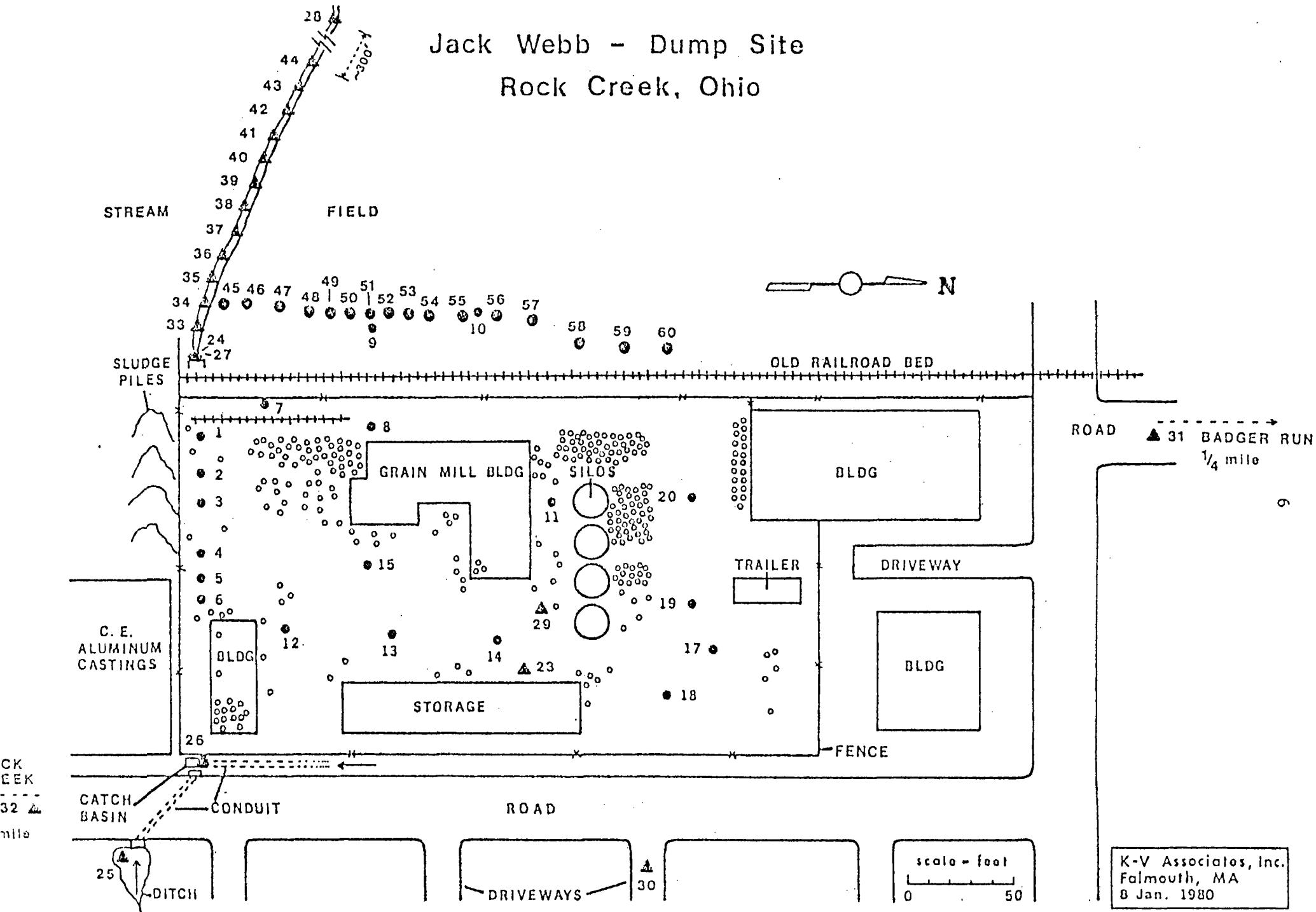
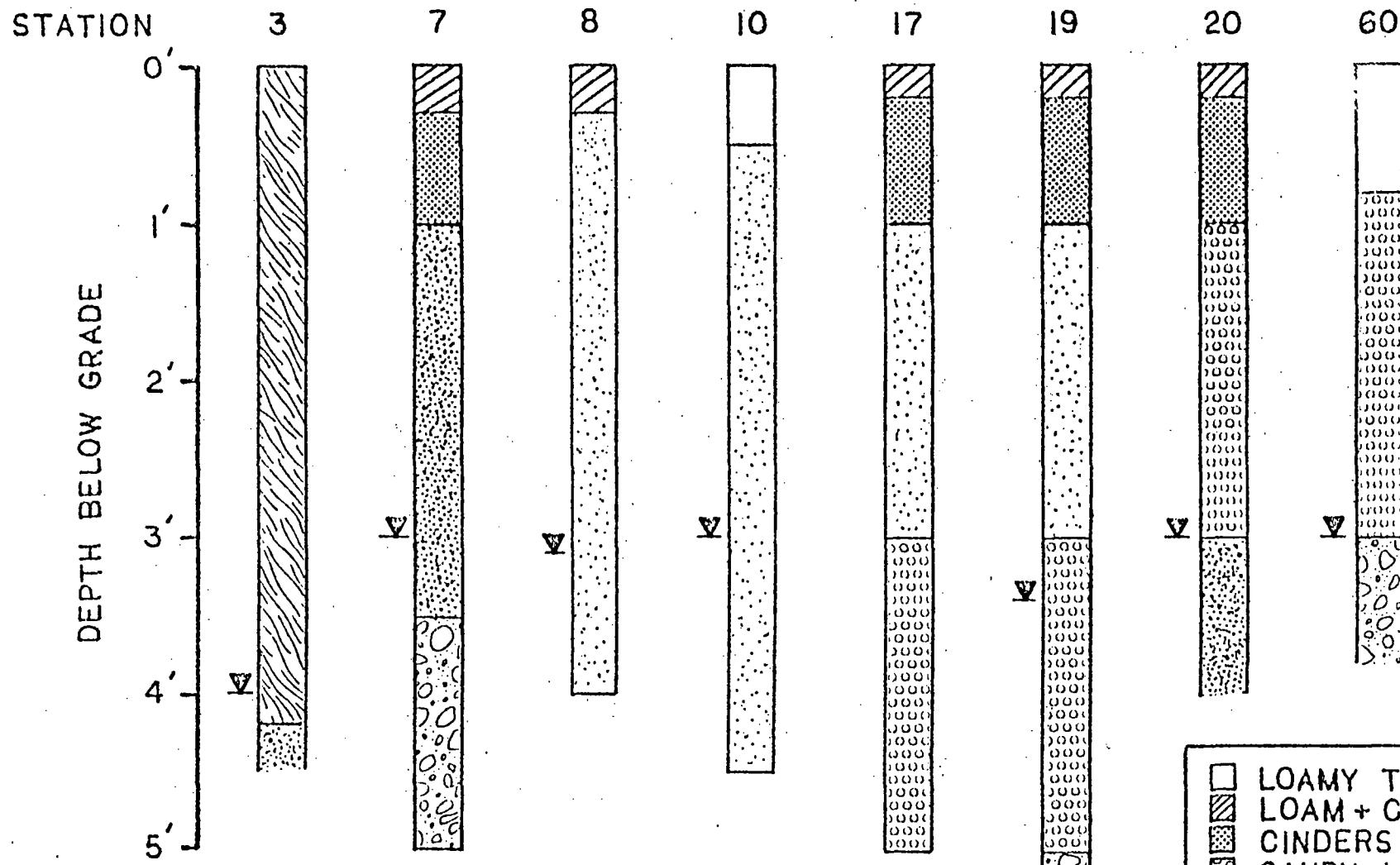


Figure 2. Jack Webb Dump Site

GENERALIZED GRAPHIC SOIL LOGS

ROCK CREEK SITE - OHIO - NOV. 1980 + JAN 1981



- | | |
|----------|-----------------|
| □ | LOAMY TOPSOIL |
| ▨ | LOAM + CINDERS |
| ▨▨ | CINDERS |
| ▨▨▨ | SANDY LOAM |
| ▨▨▨▨ | SILTY LOAM |
| ▨▨▨▨▨ | GRAVELLY - |
| ▨▨▨▨▨▨ | SANDY LOAM |
| ▨▨▨▨▨▨▨ | GRAVEL + STONES |
| ▨▨▨▨▨▨▨▨ | FILL |
| ☒ | WATER LEVEL |

K-V ASSOCIATES, INC.
FALMOUTH, MA
2 FEB 1981 VM

Figure 3. Soil coring on site and near site

edge of the site and in the adjacent wetlands contained 1 to 2 feet of dark brown to black wetlands loam (penetrated by roots) underlain by thick silty to clay loam deposits (in "field" area). Sample cores from 7, 59 and 60 intercepted gravel or slag deposits deposited as railroad track foundation.

2.0 GROUNDWATER FLOW MEASUREMENT

Upon arrival on the site during November, the field team proceeded to auger groundwater measurement holes at various locations within the site, principally in the vicinity of the drainage ditch by the C.E. Aluminum Castings Plant. Near-surface soil strata was quite variable, containing cinder-like deposits which ranged from 0 - 2 ft. deep, dark loamy deposits or sandy clay. All test holes eventually led to 2 - 3 ft. of tightly compacted clay deposits. Digging beyond this clay layer was inhibited in some holes by a layer of rock about 5 feet down, and in others by the simple compactness of the soil.

All test holes were dug to a few inches below the point where groundwater was observed entering the sides of the holes. Under dry conditions, the water table was found approximately 3 feet (1 meter) below grade. However, during precipitation, the groundwater appeared to be flowing across the top of the clay layer in some holes, especially where a thick layer of cinders was present, and in other holes, it could not be seen before the clay layer had nearly been completely penetrated. In all holes with a significant amount of water intrusion, the water level rose overnight to within one to three feet below the level ground surface.

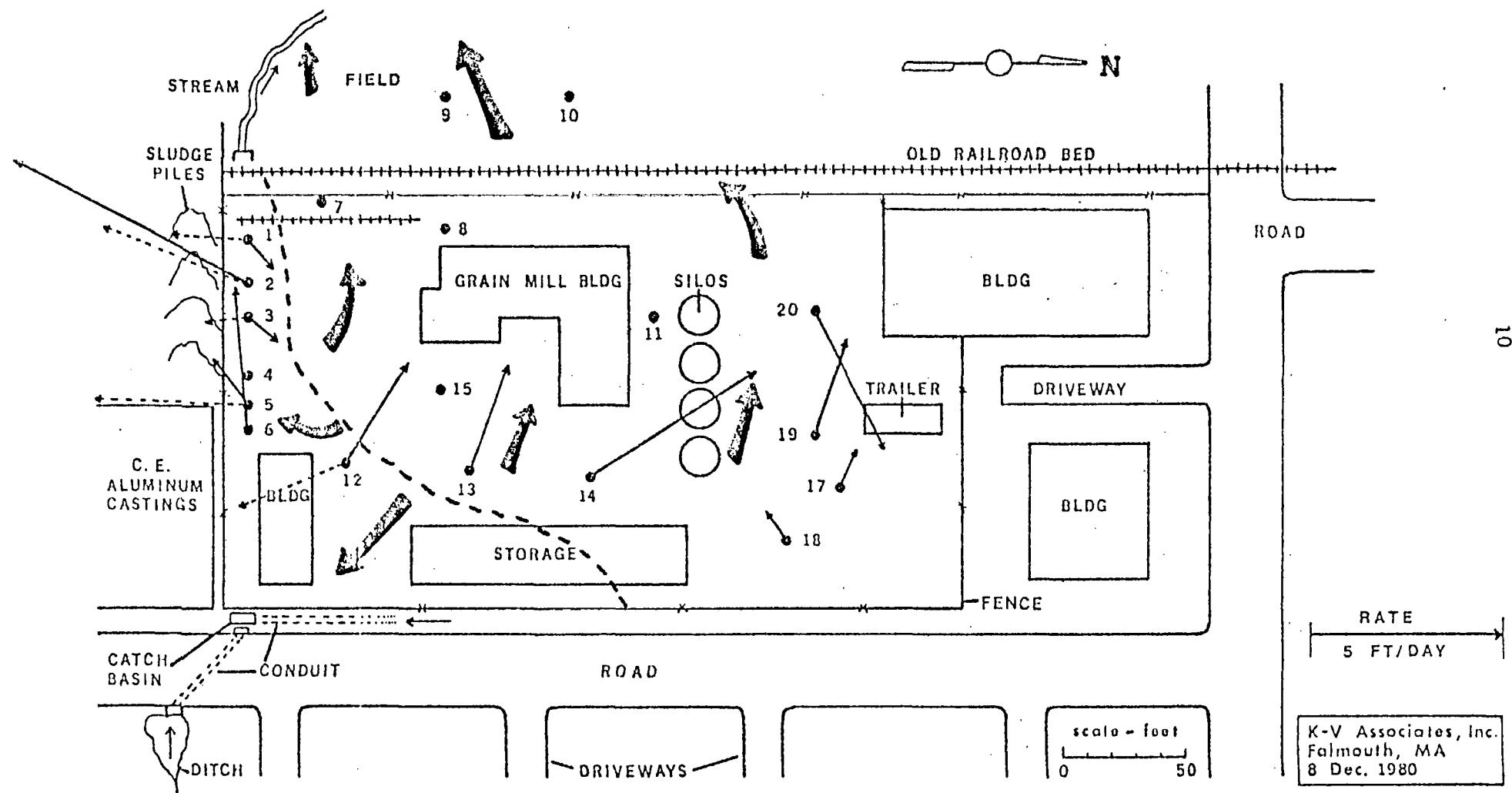
As the sidewalls of the holes did not collapse with the water inflow, casing the holes did not appear necessary. All holes were backfilled with medium sand to the level of water inflow. This sand was allowed to equilibrate over night before flow measurements were begun.

The K-V Associates, Inc. Groundwater Flowmeter was employed for the field measurements. The probe was inserted at the end of a 5 ft. rod into the sanded test holes and oriented toward North. The instrument integrates each measurement over a 3 minute interval. Figure 4 represents the results

Figure 4. GROUNDWATER FLOW RATE AND DIRECTION

Jack Webb - Dump Site

Rock Creek, Ohio



MEASUREMENTS TAKEN:

BEFORE RAIN ----->

AFTER RAIN —————>

of field measurements taken from test holes at the Rock Creek Site.

Flow across the site could be divided into two zones 1) a recharge region which would drain into the conduit during dry weather and reverse flow (discharge) during storm drainage and 2) a general flow across the site in a slightly northwest direction which bent towards the creek as it entered the adjacent wetlands field to the west of the site. Inspection of the soil cores appears to reinforce the initial impression of more permeable soils in the region of the silos, very likely in contact with gravel deposits used for the railroad bed.

Probing with the well point sampler indicated that the streambed deposits appear to be silty loam and relatively impermeable. Flow across the wetlands field appears to be principally in the loosely aggregated topsoil highly penetrated with roots (upper 2 feet).

3.0 WATER ANALYSIS

3.1 Fluorescence Scanning of Samples

Fluorescence spectroscopy is well known as an analytical tool for organic analysis because of its exceptional sensitivity and selectivity (Jadamec, et. al., 1977). The UV fluorescence procedure is capable of rapidly analyzing for classes of compounds containing aromatic (benzene ring structure) and conjugated double bonds. Whereas aliphatic organic compounds (hexane, pentane, etc.) do not respond in pure form, commercial preparations frequently contain fluorescent impurities allow identification. The U.S. Coast Guard Research and Development Center recently conducted a survey of the luminescence of hazardous materials (Brownrigg, Et. Al., 1979). A large number of hazardous organic compounds were identified as possessing useful fluorescence. Of 113 materials supplied to the Coast Guard study, 96 compounds were fluorescent compounds including benzene and naphthalene derivatives common to petroleum products, numerous pesticides and herbicides, common solvents such as toluene and xylene, dye products such as aniline, and polycyclic aromatic hydrocarbons (PAH's) such as anthracene, chrysene and pyrene.

Synchronous scanning of fluorescent mixtures, both in aqueous solution or in hexane extracts, which is accomplished by linking the excitation and emission monochromators together, has won acceptance for its ability to "fingerprint" and quantify complex oil samples (Frank, 1976). Figure shows a diagram of peak emissions of priority pollutants plotted as excitation versus emission wavelengths. Surface water and groundwater samples were obtained at 20 surface stations and 35 soil core holes. Each sample was immediately scanned in the field by a field fluorometer and then later both aqueous and hexane extract scanned in the laboratory. Using this procedure to characterize

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

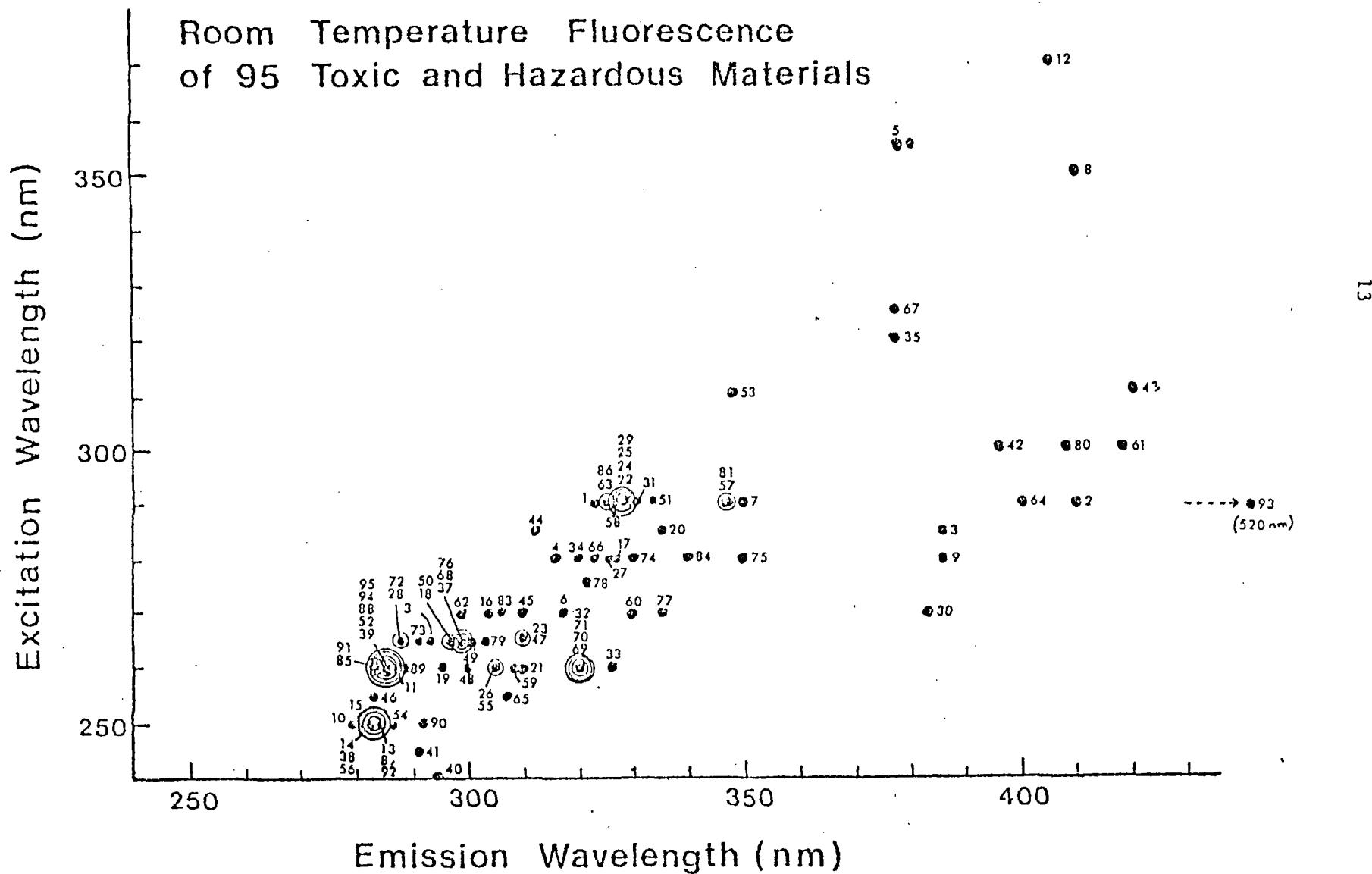


Figure 5. Excitation-emission two plot of fluorescent hazardous substances

TABLE 13. SUMMARY OF EXPERIMENTAL PARAMETERS AND RESULTS.

	CODE	CONC (PPM)	SOLVENT	λ_{exc} (nm)	λ_{max}^{em} (nm)	PEAKS	WLM (nm)	SHOULDER	DETEC-TION LIMIT (D.L.) (PPM)	λ_{DL} (nm)	COMMENTS
1	Aceanaphthalene	ACN	1.03	CH	290	323	4	3	.001	290	
2	Acetone	ACT	227	CII	290	410	1		212	290	
3	Acridine	ACR	96	CII	285/355	386/422	4/2	2/0			
4		ACR	9.6	ETOII	290/355	357/415	2/2	1/1	.02/.04	290/355	
5	Aniline	ANL	15.5	CII	200	316	1		.037	200	
6	Antisoyl Chloride										No fluorescence data taken
7	Anthracene	ATH	1.03	CH	355	378	4	1	.001	355	
8		ATH	1.55	ETOII	355	380	4	1	.001	355	
9	Acrolein 1242	PC4	131	CII	270	317	2	35	1	.3	270
10	1254	PCS	129	CII	270	317	2	36	1	2	270
11	Azazine	ATZ	369	CII	290	350	1	--	300	290	
12	Azinophosmethyl	AZP	112	CII	350	410	2	60	10	350	
13		AZP	122	ETOII	340	420	2	80	4	340	
14	Benz(a)anthracene	BAT	1.1	CII	280	386	4	1	.003	280	
15	Benzene	BNZ	79	CH	250	279	3	24	1	2/4	250/265
16	Benzonitrile	BZN	9.9	CH	260	207	2	20	1	.1/.1	260/270
17	Benzo(a)pyrene	BAP	0.088	CII	370	405	6	2	.002	370	
18	Benzoyl chloride	BCL	104	CII	260						Non-fluorescent
19	Benzyl alcohol	BAL	99	CH	250	284	2	27	1	.1/.1	250/260
20	Benzyl amino	BZM	118	CH	250	203	1	27	2	3/2	250/260
21	Benzyl triethyl-	BMA	210	H2O	250	280	1	28		59	250
22	ammonium chloride										
23	Bisphenol A	BPA	10.5	ETOII	270	304	1	30	1	.04/.02	270/285
24	Brucine	BRU	13.5	ETOII	280	327	1	56	2/2	260/295	
25	Butyl benzylphthalate	BBP									Non-fluorescent
26	O-tert-Butylphenol	BOP	21	CH	265	295	1	30	1	.1/.1	265/275
27	p-tert-Butylphenol	BTB	17.5	CII	260	295	1	31	1	.6/.4	260/280
28	Carbaryl	CBY	1.0	CII	285	335	2	36	2	.01	205
29	Carnauba Wax	WCA	63.5	CII	260	310	1	64		42	260
30	Castor Oil	OCA	390	ETOII	290	320	1	43	2	.20	290
31		OCA	246	CII	200/320					180/300, 280/320	
32	Calochol	CTC	0.7	H2O	265	310	1	46		.4/.2	265/280
33	4-Chloroaniline	CAP	17.2	CH	290	328	1	36	1	.2	290
34	1-Chloronaphthalene	CHA	11.1	CII	290	328	3	34	4	.1	290

TABLE 13. SUMMARY OF
EXPERIMENTAL PARAMETERS
AND RESULTS (con't.).

		CODE	CONC (PPM)	SOL- VENT	λ_{exc} (nm)	λ_{em} (nm)	PEAKS	WLM (nm)	SHOULDER	DETEC- TION LIMIT (DL) (PPM)	λ_{DL} (nm)	COMMENTS
26	p-Chlorophenol	CPN	101	CH	260	305	1	30		1/.1	260/205	
27	Chlorpyrifos (Dursban)	DUR	25.3	CHI	200	326	1	52		1/.5	280/295	
28	p-Chlorotoluene	CTN	23.8	CHI	265	288	1	29	3	1/.8	265/275	
29	p-Chloro-o-toluidine	COT	25	CHI	290	320	1	39	1	.09	300	
30	Chrysene	CRY	1.0	CH	270	393	5			.002	270	
31	coconut Oil	OCC	286	CHI	290	330				100	290	
32	Cod Liver Oil	OCL	321	CHI	200/280 310	320/320 500	1/1	150		160, 140 .65	260, 210 330	
33	Copper Naphthenate	CNN	98	CHI	260	326	1	60	3	3/1	260/200	
34	Cottonseed Oil	OCS	305	CHI	200/320	320/380	-	-		165, 300	280, 320	
35	Coumarin	COU	11.4	CHI	320	377	1	74		.3	320	
36	o-Cresol	CRO	12.0	CHI	265	293	1	30	1	.04	200	
37	p-Cresol	CRP	10.3	CHI	265	299	1	30		.03	280	
38	Cumene	CUM	101	CHI	250	203	2	28	1	3	250	
39	p-Cymene	CMP	11.8	CHI	260	205	1	28	2	.4/.2	260/270	
40	DDO	DDO	61.	CHI	240	294	1	30	2	4	240	
41	DDT	DDT	87	CHI	245	291	2	28	2	7	245	
42	Benzofuran	DZN										Non-fluorescent
43	1,2,5,6-Dibenzanthracene	DBA	.015	CHI	300	396	4		2	.001	300	
44	Dicamba	DIC	22.2	H2O	310	420	1	70		.9	310	
45	Dichlorobenzene	DCL	2.8	CHI	280							Non-fluorescent
46	Dichlorobenjil	DIB	108	CHI	285	312	1	30		.6	205	
47	2,4-Dichlorophenoxy-acetic acid	DCA	159	CHI	270	310	1	46	1	30	270	
48	Diethylbenzene	DEB	100	CHI	255	203	1	20	2	.2/.1	255/270	
49	Diethylene glycol	DEG	202	CHI	265	310	2	-	-	202	265	
50	Diethylphthalate	DEP	145/289	CHI	260/280	300/320	1/1				200	
51	2,4-Dimethylphenol	DMH	10.5	CHI	265	300	1	31	1	.2/.04	265/280	
	3,5-Dimethylphenol	DPH	10.5	CHI	265	295	1	28	1	.07/.03	265/200	
	Dimethyl terephthalate	DNT										Non-fluorescent
	2,4-Dinitroaniline	DNT										Non-fluorescent
	4,6-Dinitro-o-cresol	DOC										Non-fluorescent
	2,4-Dinitrophenol	DNP	10.4	H2O	270	350						Non-fluorescent
	Naphthalimide	DAM	11.2	CHI	290	333	1	37	2		290	Photochemical change
			1.2	CHI	290	333	1	37	2		290	

TABLE 13. SUMMARY OF EXPERIMENTAL PARAMETERS AND RESULTS (con't.).

	CODE	CONC (PPM)	SOLVENT	λ_{exc} (nm)	λ_{max}^{cm} (nm)	PEAKS	WHM (nm)	SHOULDER	DETEC-TION LIMIT (D.L.) (PPM)	λ_{DL} (nm)	COMMENTS
52	Diphenyldichlorosilane	DDS	157	CHI	260	205	2	30	3/2	260/270	
—	Diphenylhydrazine	DPH	32.6	ETOH							Non-fluorescent
53	Diquat dibromide	DQD	35.5	H2O	310	348	1	41	1.055	310	
—	Diuron	DIU									Not received
54	Dodecylbenzene	DDB	116	CHI	250	285	3	30	*	250	Strong impurity
—			116	CHI	220	205	3	30	13.6	220	
55	Dowtherm A	DTA	10.8	CHI	260	305	2	33	2	.035	260
56	Ethylbenzene	ETB	103	CHI	250	283	2	26	3.1/1.5	250/260	
—	Fluoranthene	FLA	1.0	CH	360	405	2	91	3	.005	360
57	Gallic acid	GLA	103	H2O	290	346	1	77		.70	290
58	Hydroquinone	HQD	1.1	H2O	290	326	1	30	1	.025	290
59	Indene	IND	175	CHI	260	309	2	32	3	.12	260
60	Lard	OLD	340	CHI	270	330				270	
—		OLD	207	CH	280	330	1			280	
61	Linseed oil	OLS	355	CH	300	418	1	105		32.	300
62	Methoxychlor	MOC	95	CHI	270	299	1	30	1	1.3/0.8	270, 280
63	Methylaniline	MAN	10.8	CHI	290	325	1	35		.01	290
—	Methylene di-p-phenylene diisocyanate										No fluorescence data taken
64	Methyl isobutyl ketone	MIK	358	CH	290	400	1			290	
65	-Methyl styrene	MSR	105	CHI	255	307	1	35	2	.12	255
66	Naphthalene	NPT	10.5	CH	280	323	2	24	3	.02	280
67	1-Naphthylamine	NAD	1.85	CHI	325	377	1	55	1	.0012	325
—	Nitroaniline										No fluorescence data taken
—	m-Nitroaniline	NTN									
68	Nonyl phenol	NNP	17.1	CHI	265	298	1	28		.09	265
69	Olive Oil	OOL	237	CH	260	320	1			360	
—		OOL	290	CH	310						310
70	Palm Oil	OPH	100	CH	260	320	1	60		210	260
—				CHI	350	500	1	140		300	350
71	Parathion K	PTO	3.5	CH	280						Non-fluorescent
72	Peanut Oil	OPN	249	CH	260, 290	320	1				
73	Phenol	MPH	11.9	CH	265	288	1	30	2	.011/.001	265/275
73	Phenyl ether	DPE	20.4	CHI	265	291	1	36	1	.10	265

TABLE 13. SUMMARY OF EXPERIMENTAL PARAMETERS AND RESULTS (CONT.)

	CODE	CONC (PPM)	SOLVENT	λ_{exc} (nm)	λ_{em} (nm)	PEAKS	WLM (nm)	SHOULDERS	DETEC-TION LIMIT (D.L.) (PPM)	λ_{DL} (nm)	COMMENTS	
74	Phthalic acid	PHA	97	H ₂ O	280	330	1	100		34	200	
		PHA	220	H ₂ O	270	340	1	100		114	270	
75	Piperazine	PPZ	235	C _{II}	280	350	1					
76	Polyethoxylated nonyl-phenol	PEN	9.5	C _{II}	265	297	1	30		.00,.00	265/280	
77	Pyrogallol	PGA	152	H ₂ O	270	335	1	86	1	30	270	
78	Quinoline	QNL	113	ETOH	275	321	5		2			
			113	ETOH	355	420	1	70	0			Photolyses
			95	C _{II}	275	336	3		2	.37	275	Photolyses
			95	C _{II}	350		2	57	1			Photolyses
79	Resorcinol	RSC	10.1	H ₂ O	265	303	1	39	1	.135/05	265/280	
80	Salicylic acid	SIA	1.5	H ₂ O	300	409	1	64		.005	300	
81	Sodium dodecylbenzenesulfonate	SDB	90	C _{II}	290	347	1	52	2	.90	290	
82	Soya Bean Oil	OSB	290	C _{II}	270,320					.300	270,320	
83	Styrene	STY	1.1	C _{II}	270	306	2	32	2	.03	270	
84	Tallow	TLO										No fluorescence data taken
85	Tannic acid	TNA	13	H ₂ O	200	340	1	100		.63	200	
86	1,2,3,4-Tetrahydro-naphthalene	THN	12.3	C _{II}	260	284	1	27	2	.21/.13	260/270	
87	p-Toluidine	TLI	14.1	C _{II}	290	325	1	34		.03	290	
88	Toluene	TOL	107	C _{II}	250	284	2	27	1	2.1/1.6	250/215	
89	p-Toluene sulfonic acid	TAP	120	H ₂ O	260	285	1	28	1	2.1/1.5	260/265	
90	Tricresylphosphate	TCP	123	C _{II}	260	288	1	66	1	.55/.35	260/270	
91	1,3,5-Triethylbenzene	TEB	122	C _{II}	250	292	1	20	3	12.5/1.5	250/270	
92	Trifluralin	TFL										No fluorescent data taken
93	Turpentine	TPT	301	C _{II}	260	283	1	34	3	31/13	260/270	
94	Undecylbenzene	UDB	87.3	C _{II}	250	284	2	33	2	6.0	250	
95	Urananyl nitrate	UAN	61.	H ₂ O	290	520	3	56	2	6.1/10.5	290/310	
m-Xylene	XLM	114	C _{II}	260	285	1	20	1	2.0/1.4	260/270		
α -Xylene	XLO	92	C _{II}	260	285	1	30		1.5/1.3	260/270		
Zirconium acetate	ZCA										See text	

the organic contamination found on and nearby the site, the following conclusions were reached:

1. Two major sources of aromatic compounds were observed a) near the north-south conduit which are discharging noticeable water soluble and hexane soluble compounds into the perennial stream passing through the site and b) a groundwater discharge presumably originating from seepage from deteriorating barrels in the vicinity of the silos, apparently dispersing into the railroad gravel bed adjacent to the site.

2. During the December visit, strong odors and "mousse" concentrations were observed in the conduit, and on the surface of the stream in the vicinity of station 35 through 42. Despite low air temperatures, near -14°C (10°F), disturbed shoreline debris would release oily sheens and a noticeable solvent odor.

3. The two major source materials contained different fluorescent characteristics. Aqueous samples exhibited a maximum excitation (absorbence) at 290nm with lesser absorption at 260nm for the conduit source suggesting double conjugated aromatics (naphthalene derivatives) mixed with single ring solvents (toluene, benzene, xylene derivatives) and a maximum excitation (absorbence) of 340nm (3 conjugated aromatic ring structures) with lesser concentrations of doublet ring compounds (290nm absorption) for the silo sources.

4. A sample of standing water (sample 29) observed to have exceptional fluorescence during field fluorometer screening, revealed principal excitation/emission wavelengths of 304/330nm, a region previously unlogged for hazardous materials.

5. A solvent shift from aqueous samples to hexane extracted samples was observed in the case of samples obtained from the first source. In water the dominant signature occurred at 290/340. Upon hexane extraction,

the dominant fluorescence shifted to 290/328.

6. Hexane extracts of the highly elevated groundwater contamination near the silo (sample 11) showed maximum fluorescence at two locations 240/330nm and 330/370nm. The 330/370 region represents regions common to 3-conjugated benzene ring aromatic compounds.

7. On the basis of the fluorescent scanning of the two discharges, the following classes of known compounds are suggested for inclusion in follow-up GC/MS analyses:

CONDUIT SOURCE (Samples 26 and 39)

<u>Major</u>	Excitation	Emission
Acenaphthene	290	323
Diethylphthalate	260/280	300/320
Arochlor	270	317
Chloronaphthalene	290	328
Chloroaniline	290	328
Chloro-o-toluidine	290	328
Hydroquinone	290	326
Diphenylamine	290	333
<u>Secondary</u>		
Creosol	265	293
Phenol	265	288
Xylene	260	285

SILO SOURCE (330/370:302/330) (Sample 11, 60)

	Excitation	Emission
PAH's	320-400	350-500
Cottonseed oil	280 (320)	320 (380)
Oil (drilling fluid)	290-350	320-500
Naphthylamine	325	377

NOTE: Upon hexane extraction, the doublet ring class of compounds were present (sample 60) with maximum excitation/emission at 291/330nm suggesting lesser concentrations similar to samples 26, 39.

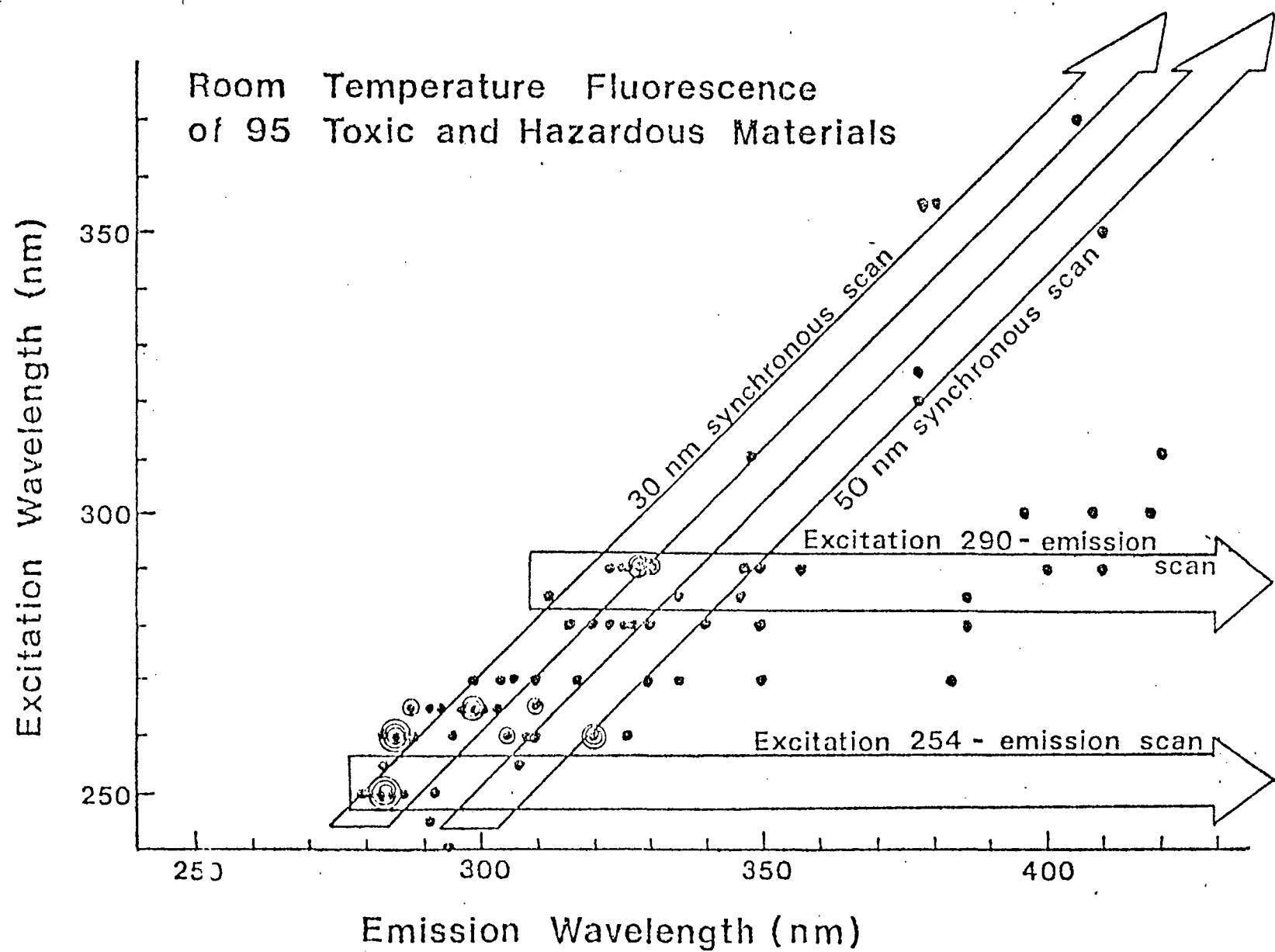
3.2 Location of Fluorescent Aromatic Concentrations

For comparison of the fluorescent aromatic content of the water samples, 50nm synchronous scanning was performed. Figure 6 graphically depicts methods of characterization of luminescent organic components by synchronous or excitation-emission scanning. Figures 7 and 8 show the regions of elevated concentrations observed in surface and groundwater samples for the 290nm and 340nm peak regions. Individual scans for each station are contained in the appendix. Samples are grouped on the mapping without an attempt to separate them chronologically. For instance, sample 28 in surface water was obtained during November when little discharge was apparent to the stream. The following figures 9, 10, 11, and 12 are segregated to time of sample.

3.3 Fluorescent Characterization

Characterization of the principal fluorescent classes of compounds was performed on aqueous solutions and hexane extracts of samples containing highly elevated fluorescence. Excitation-emission scans were done progressively at 10nm divisions and the two-dimensional zones of 90% peak height and 10% peak height indicated on the excitation-emission coordinate plots (figures 13, 14, 15, 16, 17 and 18). A noticeable shift in fluorescence peak occurred during shift from aqueous to hexane solvent, although the excitation (absorption) zone often remained stable.

Figure 6. Zones of sensitivity of fluorometer scans of water samples.

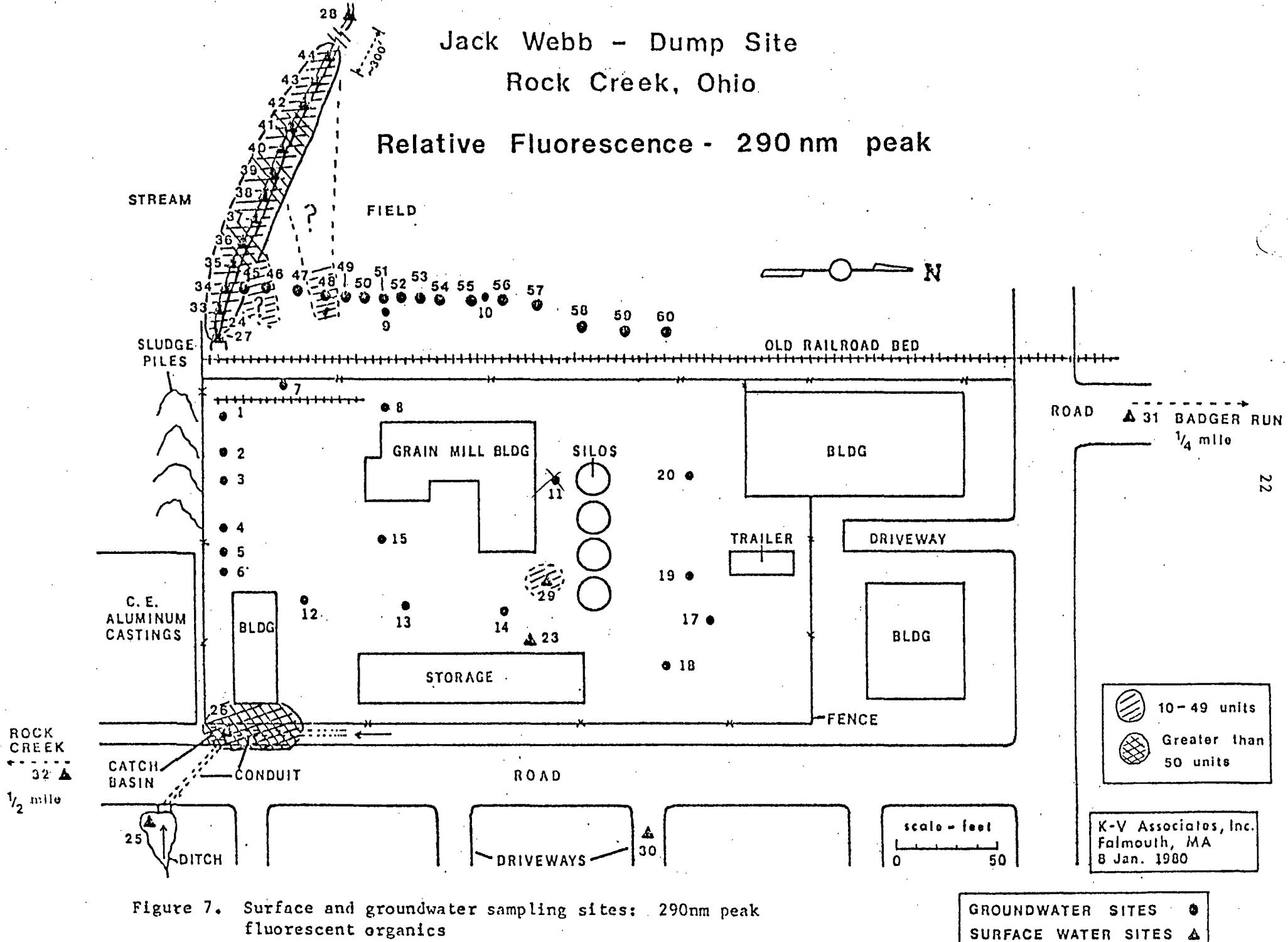


SURFACE AND GROUNDWATER SAMPLING SITES

Jack Webb - Dump Site

Rock Creek, Ohio

Relative Fluorescence - 290 nm peak



SURFACE AND GROUNDWATER SAMPLING SITES

Jack Webb - Dump Site
Rock Creek, Ohio

Relative Fluorescence - 340 nm peak

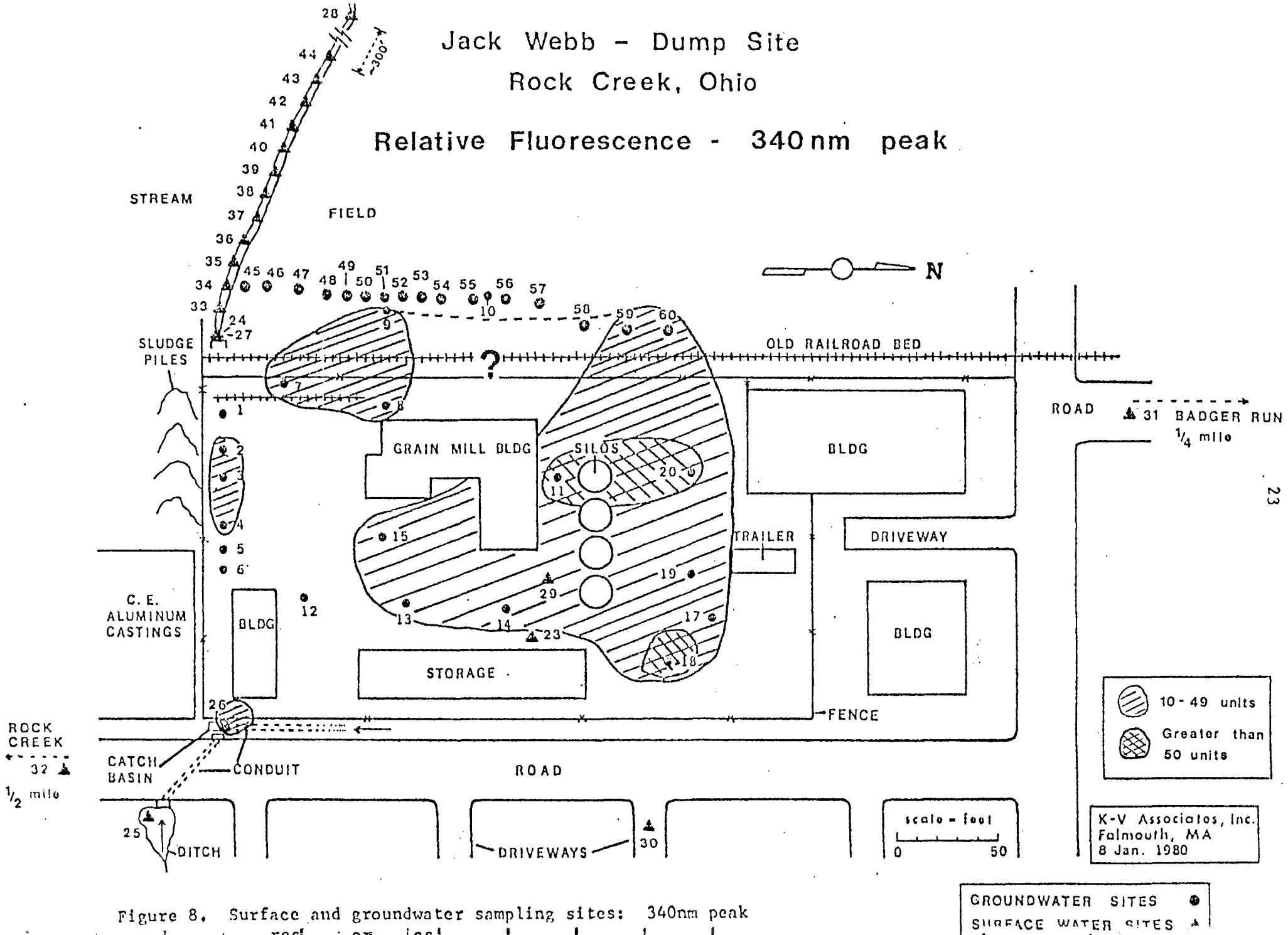


Figure 8. Surface and groundwater sampling sites: 340nm peak

GROUNDWATER SITES
SURFACE WATER SITES

NOVEMBER 1980

WATER SAMPLE DATA

JACK WEBB SITE - ROCK CREEK, OHIO

217

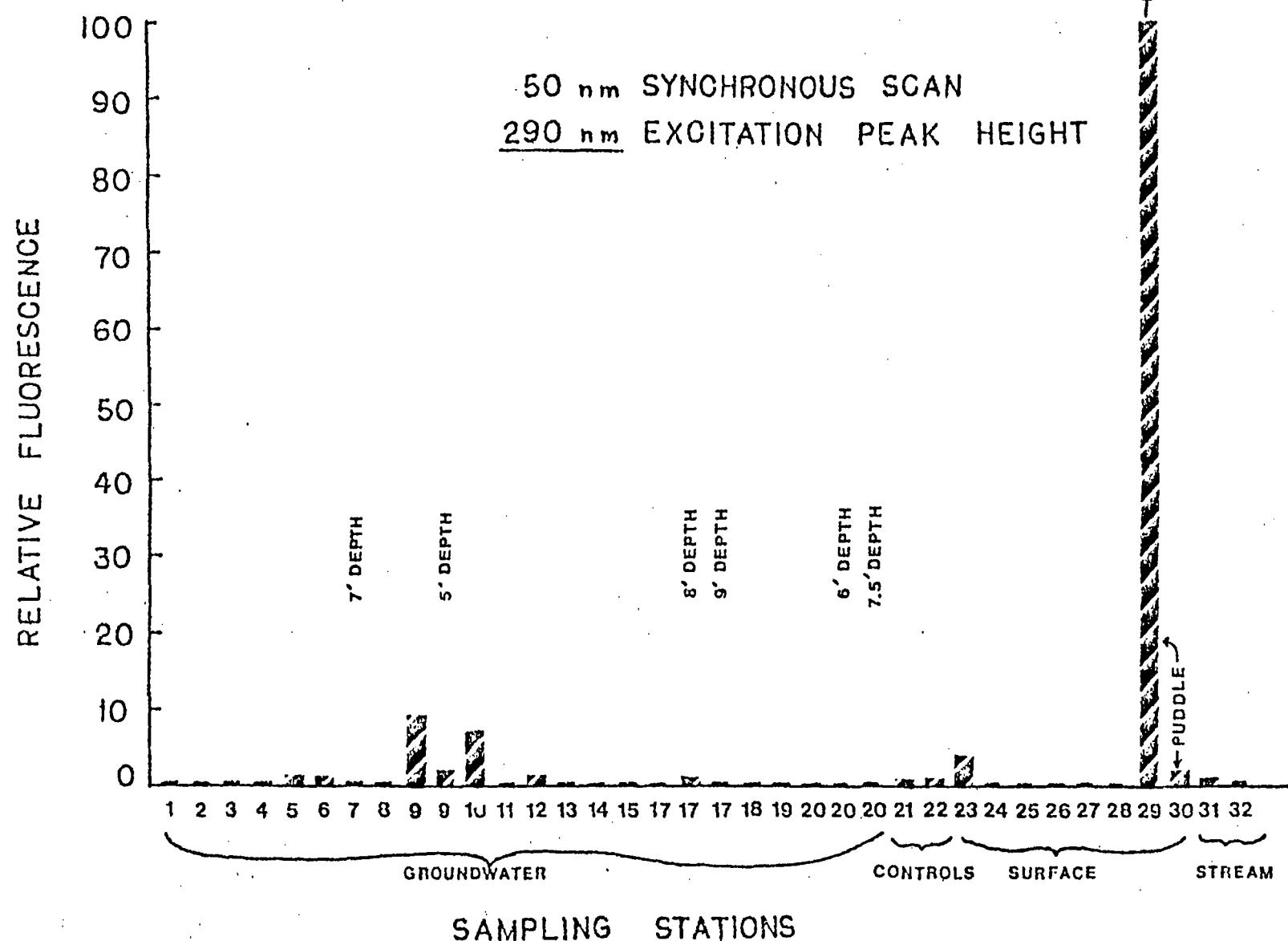
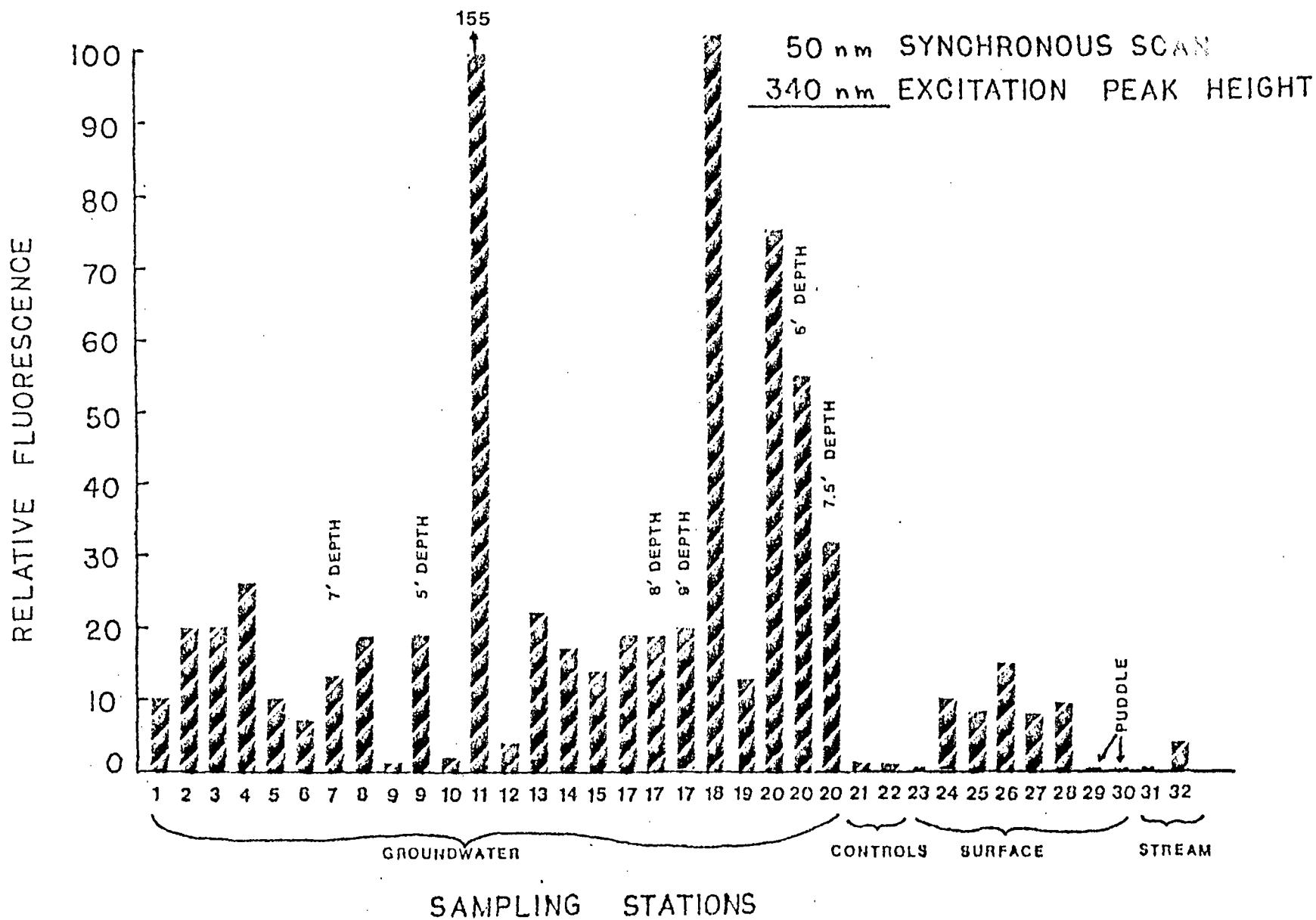


Figure 9. Relative fluorescence at 290nm region for November water samples

NOVEMBER 1980

WATER SAMPLE DATA

JACK WEBB SITE - ROCK CREEK, OHIO



JANUARY 1981
WATER SAMPLE DATA

JACK WEBB SITE - ROCK CREEK, OHIO

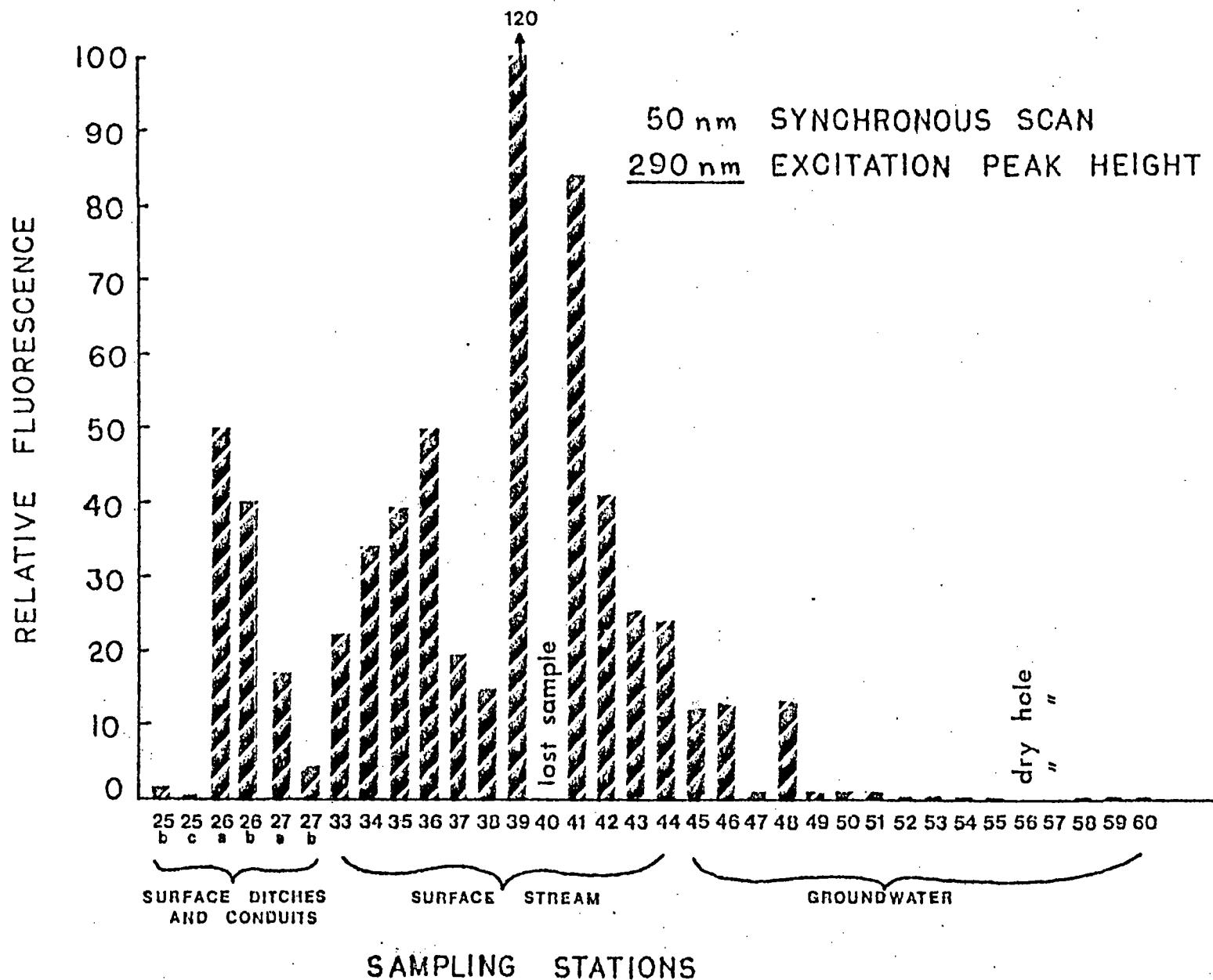


Figure 11. Relative fluorescence at 290nm region for January, 1981 water samples

JANUARY 1981
WATER SAMPLE DATA

JACK WEBB SITE - ROCK CREEK, OHIO

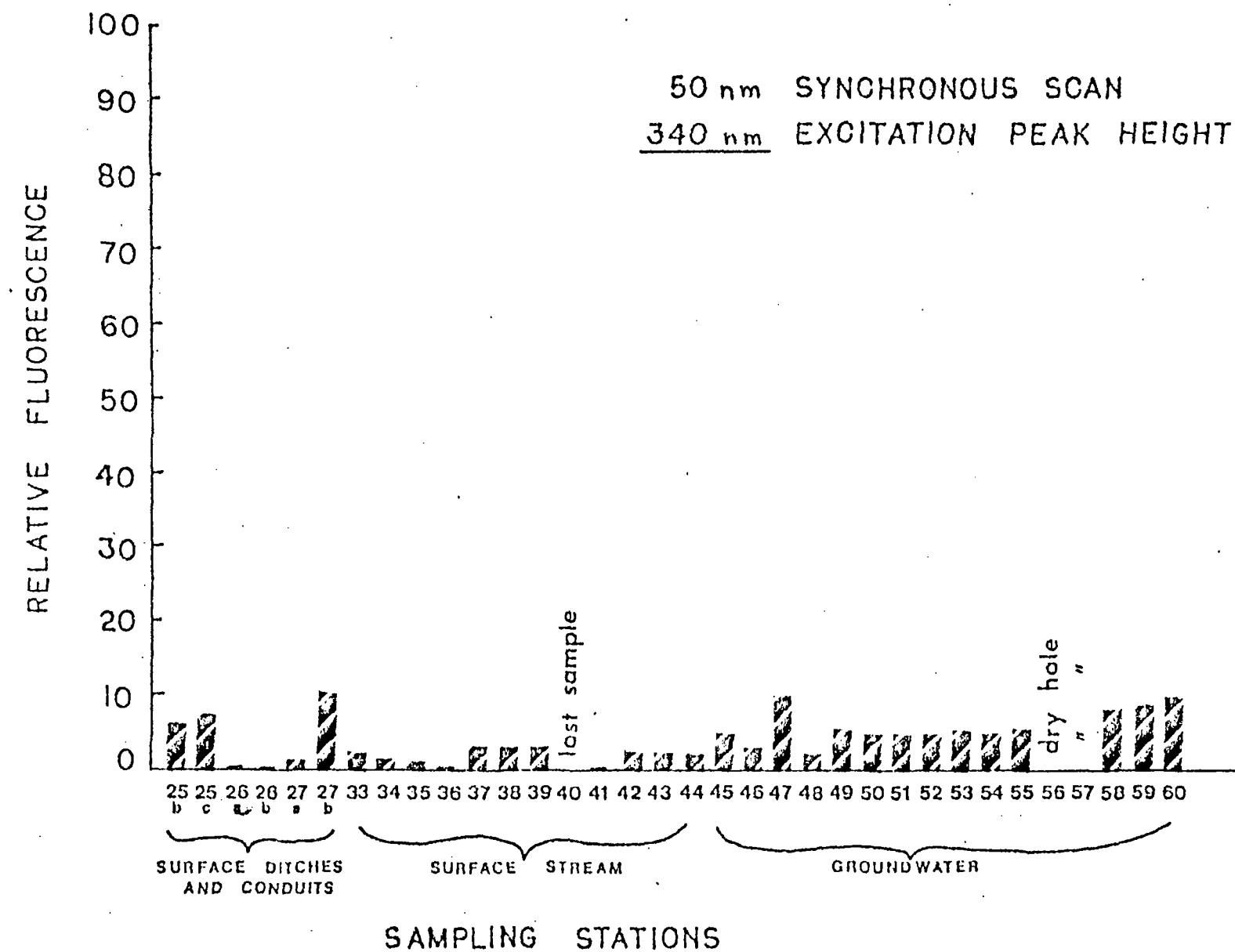


Figure 12. Relative fluorescence at 340nm region for Janauity, 1981 water samples

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

FLUORESCENT CHARACTERIZATION: SAMPLE 11

Room Temperature Fluorescence
of 95 Toxic and Hazardous Materials

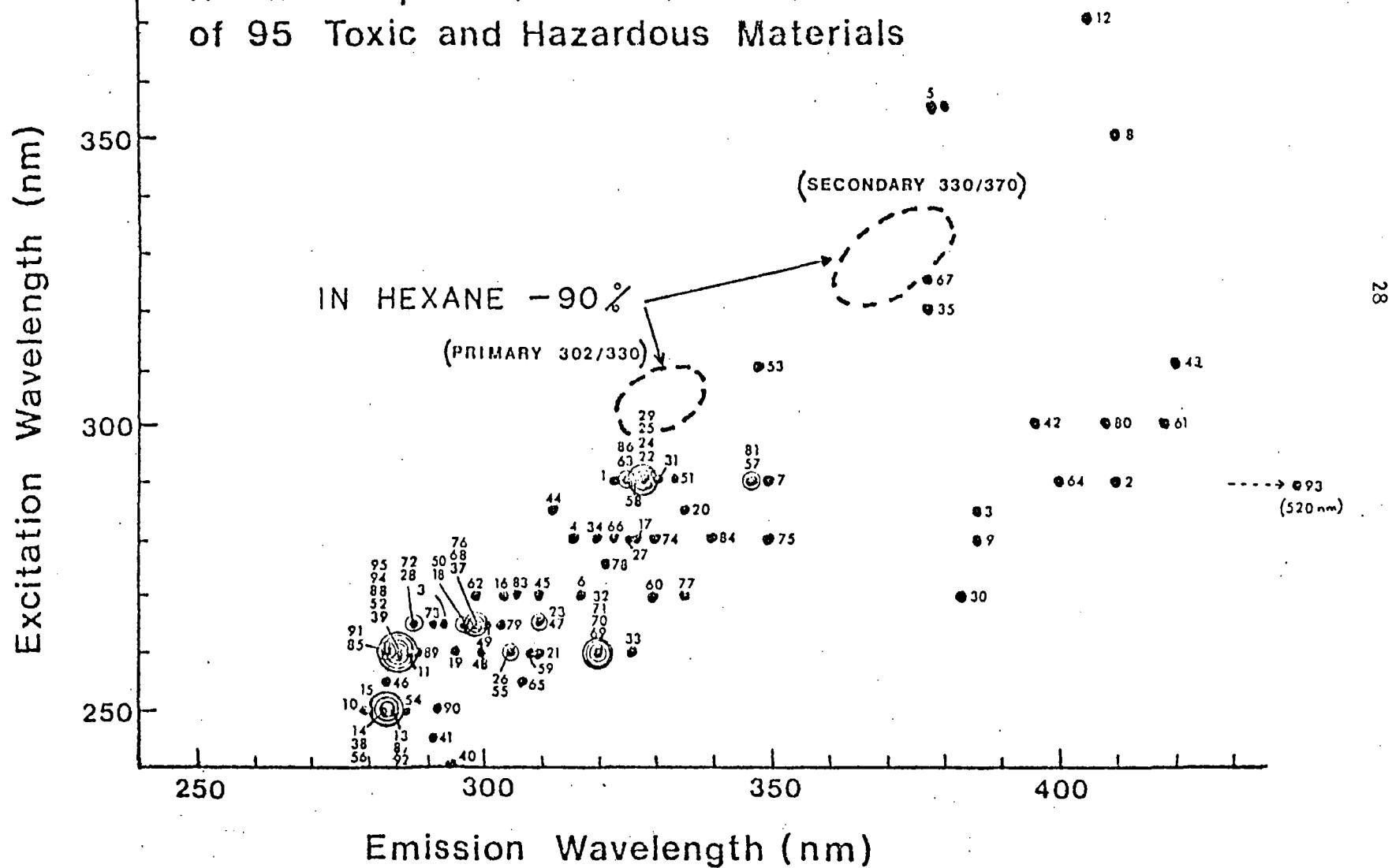


Figure 13. Excitation-emission peak regions for sample 11

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

FLUORESCENT CHARACTERIZATION: SAMPLE 18

Room Temperature Fluorescence
of 95 Toxic and Hazardous Materials

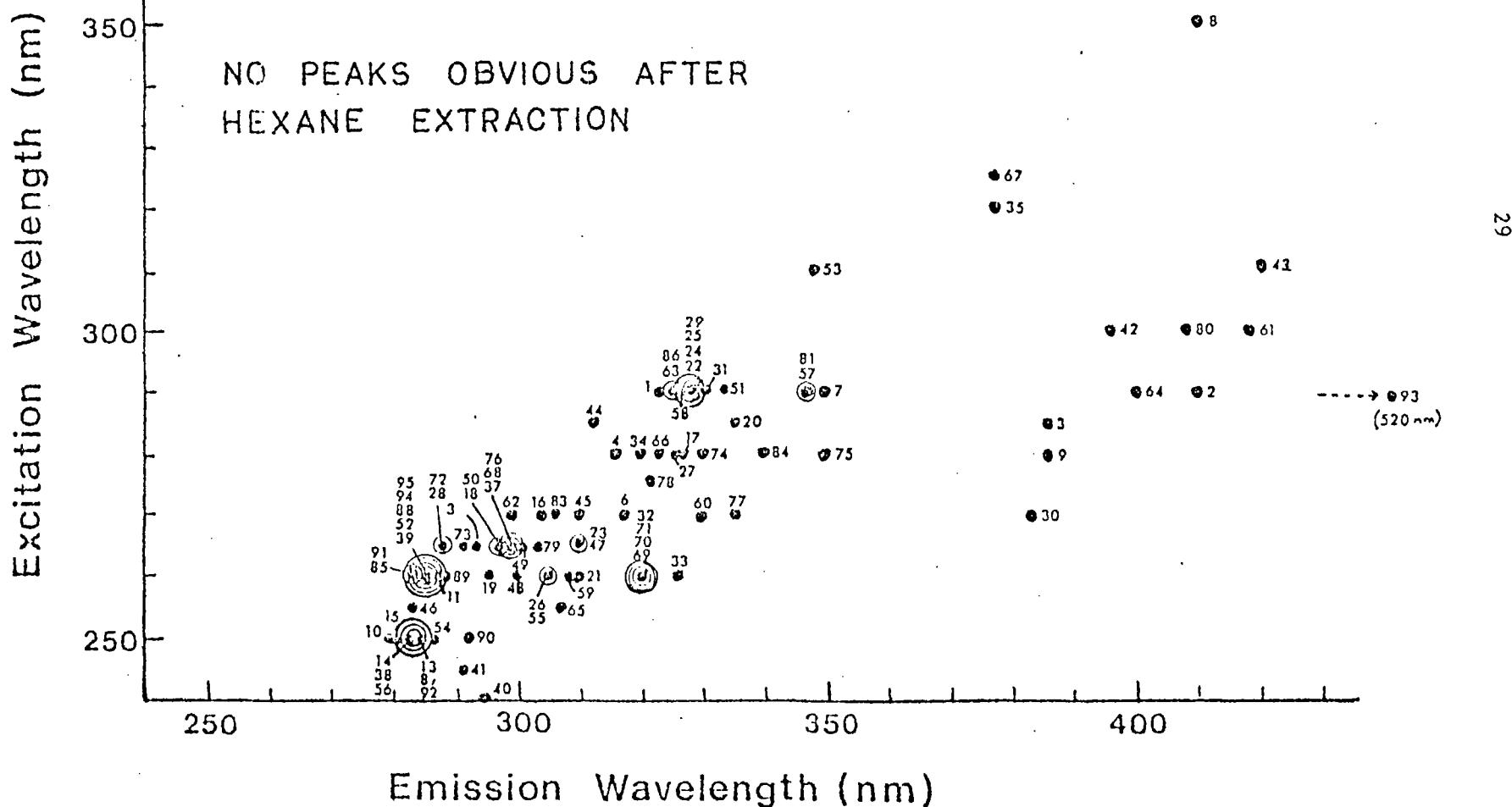


Figure 14. Excitation-emission peak regions for sample 18.

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

FLUORESCENT CHARACTERIZATION: SAMPLE 26a

Room Temperature Fluorescence
of 95 Toxic and Hazardous Materials

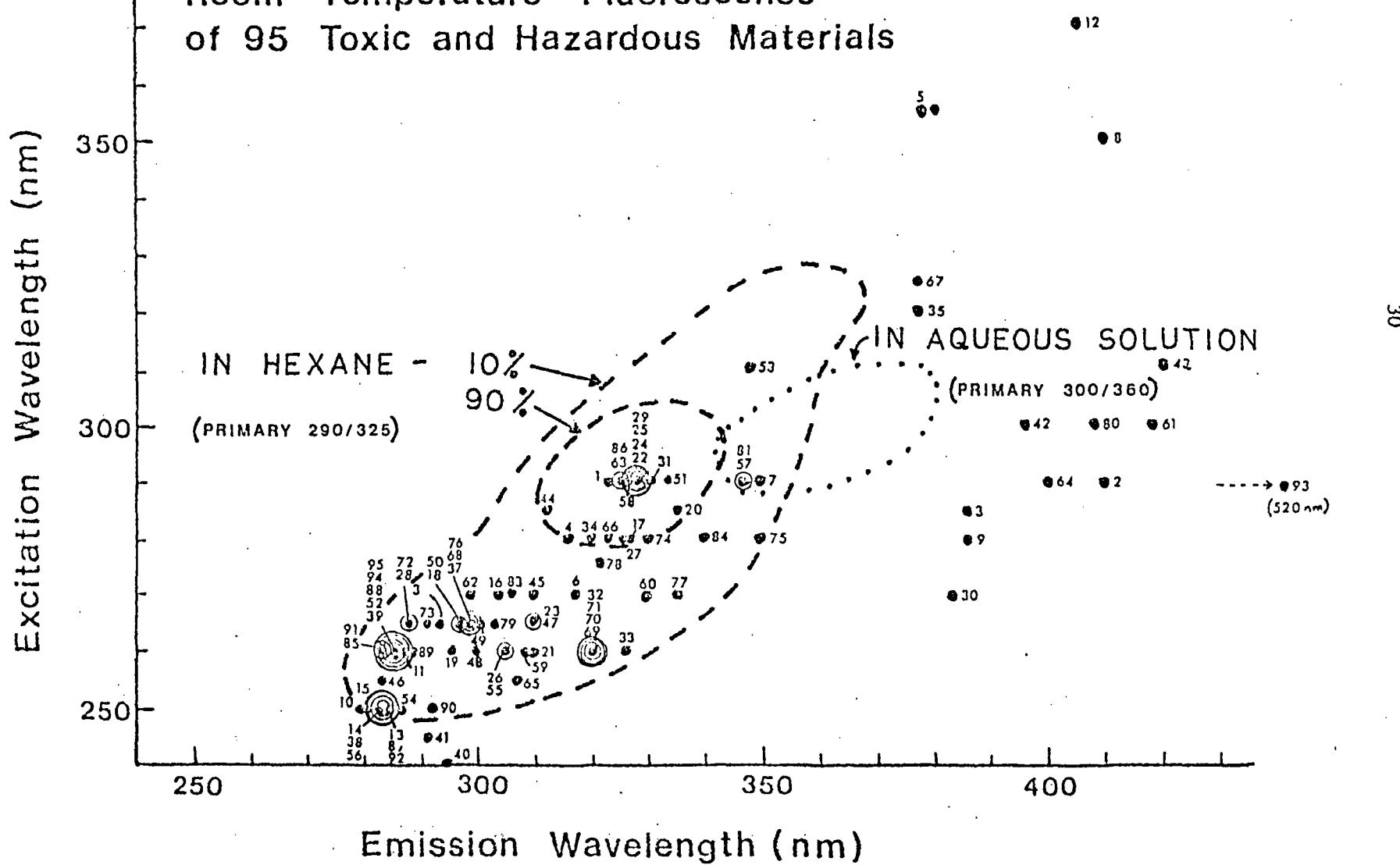


Figure 15. Excitation-emission peak regions for sample 26

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

FLUORESCENT CHARACTERIZATION: SAMPLE 29

Room Temperature Fluorescence
of 95 Toxic and Hazardous Materials

Excitation Wavelength (nm)

350

IN HEXANE - 10%
90%
(PRIMARY 304/330)

300

250

250

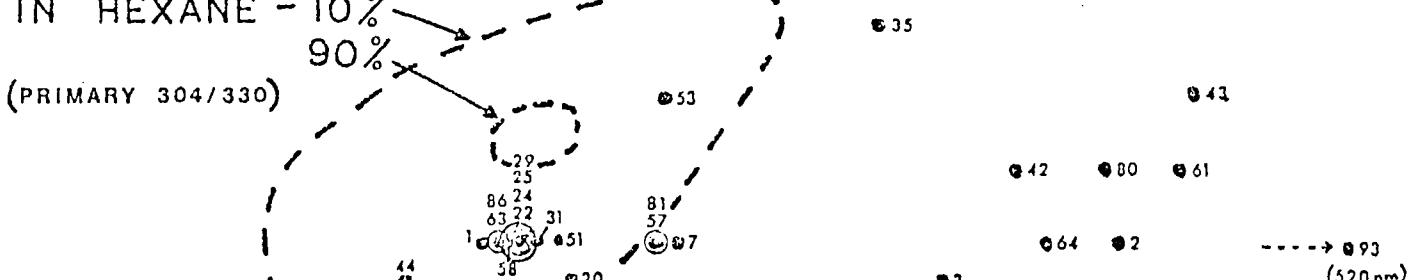
300

350

400

Emission Wavelength (nm)

16 100 1000 10000 100000 1000000



31

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

FLUORESCENT CHARACTERIZATION: SAMPLE 39

Room Temperature Fluorescence of 95 Toxic and Hazardous Materials

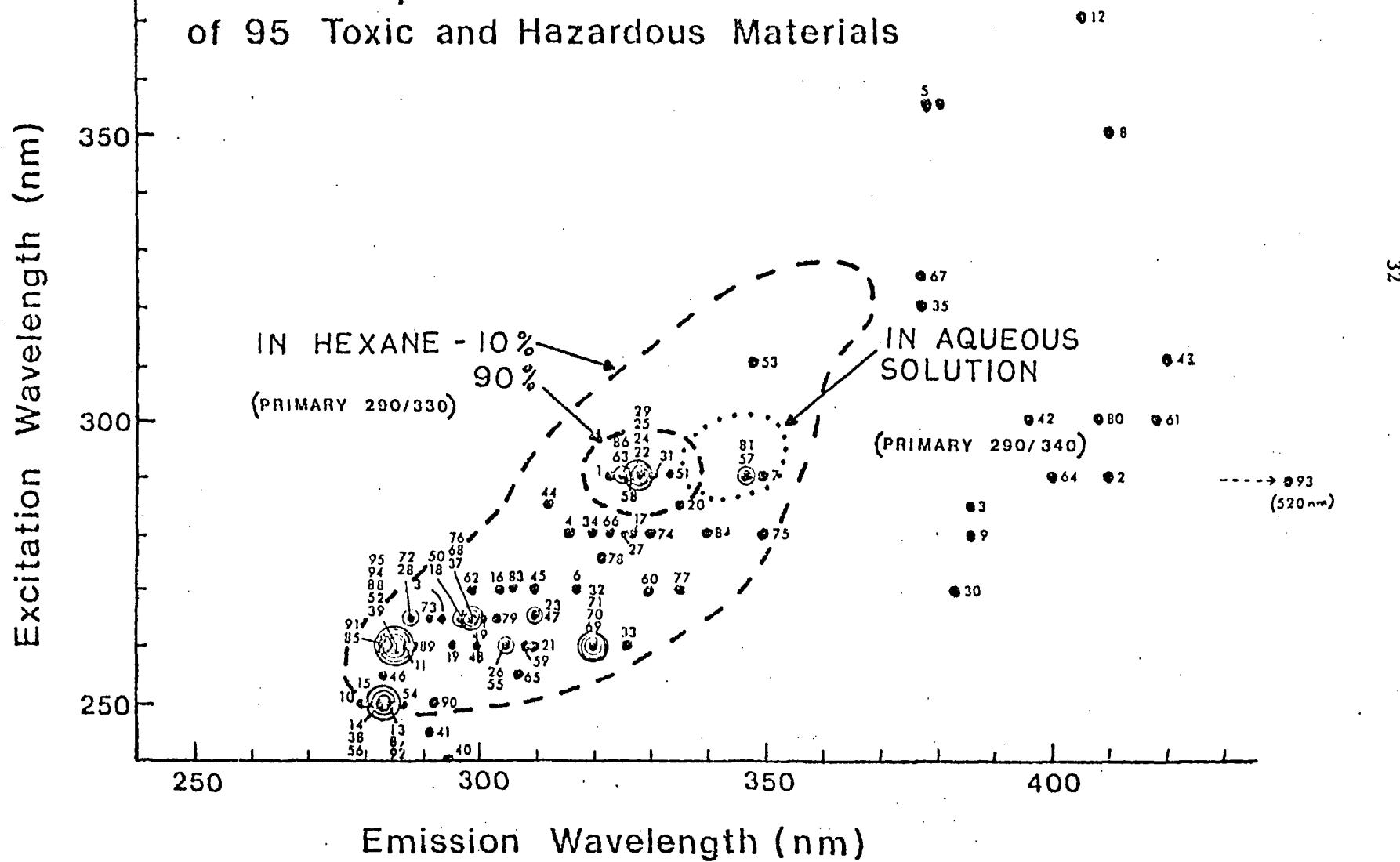


Figure 17. Excitation-emission peak regions for sample 39

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

FLUORESCENT CHARACTERIZATION: SAMPLE 48

Room Temperature Fluorescence
of 95 Toxic and Hazardous Materials

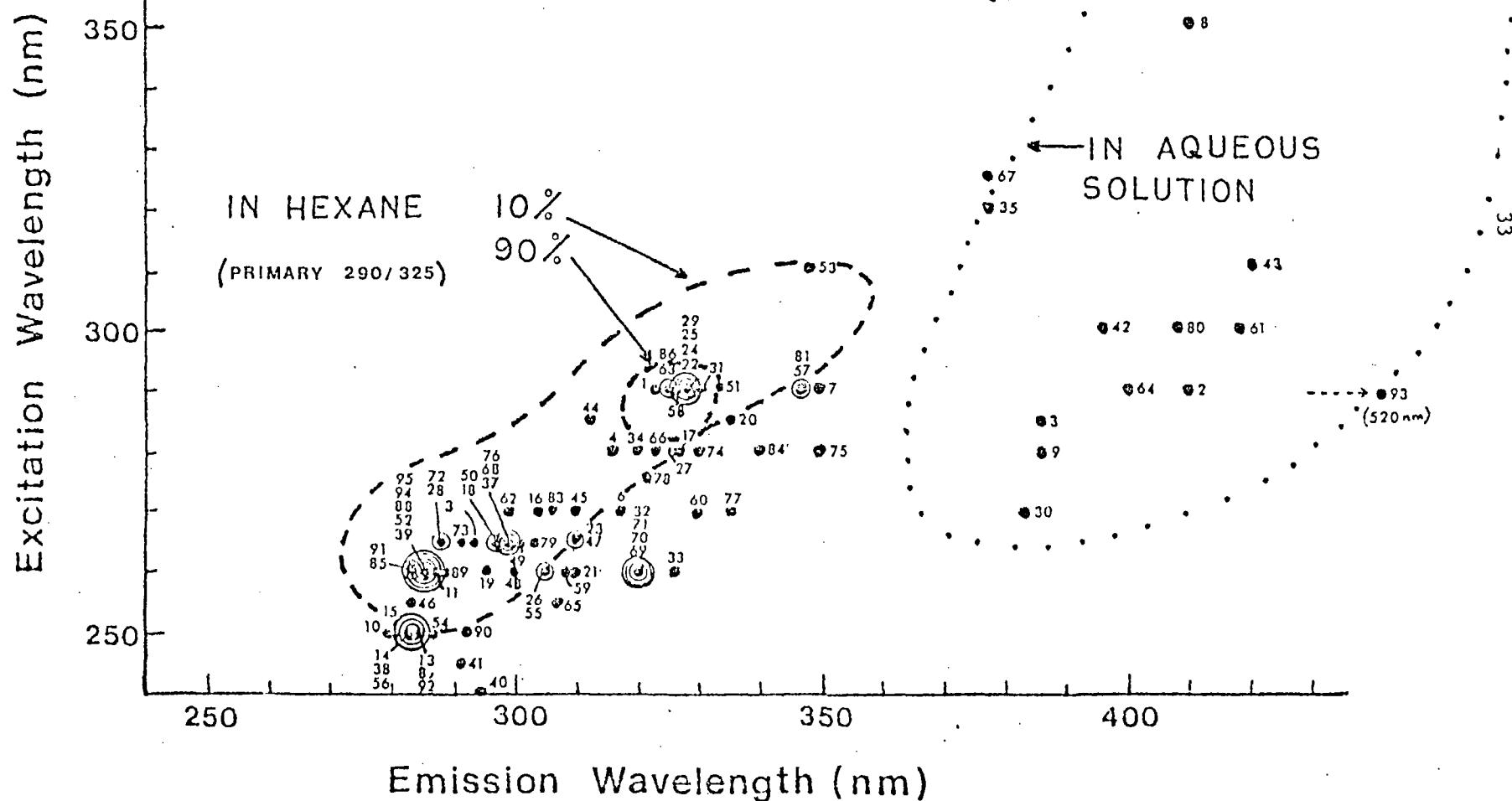


Figure 18. Excitation-emission peak regions for sample 48.

SOURCE: A luminescence survey of hazardous materials, Brownrigg, et. al., Baird Corp., Bedford, MA 01730

FLUORESCENT CHARACTERIZATION: SAMPLE 60

Room Temperature Fluorescence
of 95 Toxic and Hazardous Materials

Excitation Wavelength (nm)

350

IN HEXANE - 10%
(PRIMARY 291/330)

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

90%

250

300

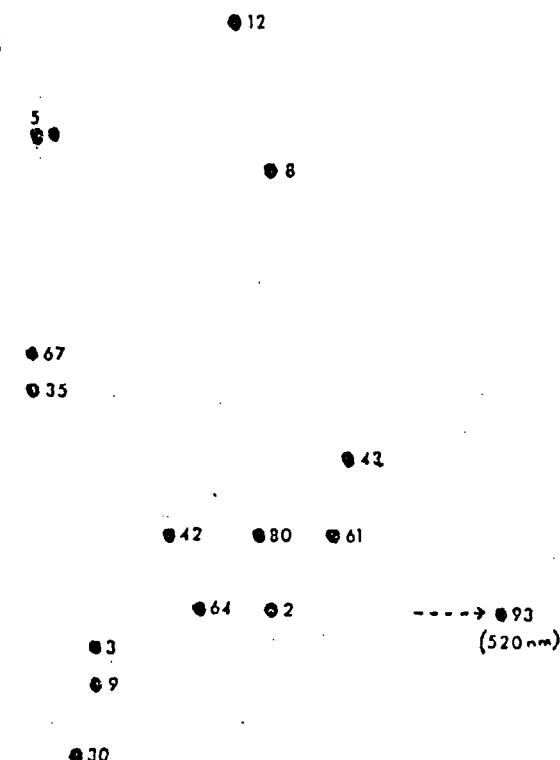
350

400

Emission Wavelength (nm)

34

520 nm



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APPENDIX

A. GROUNDWATER FLOW METER:
OPERATION AND THEORY

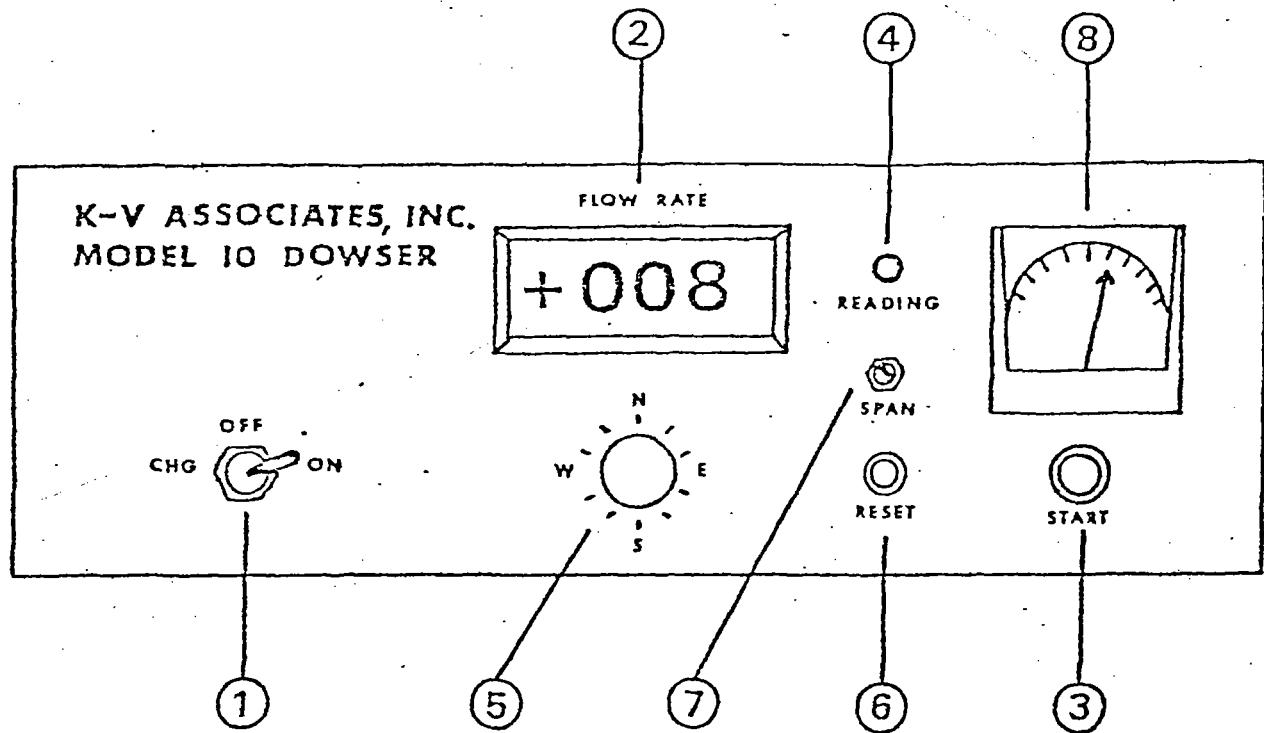


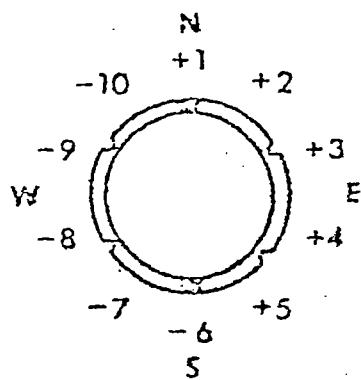
Figure 2 Deck Box Operating Controls and Indicators

Item	Control	Function	Instruction
1	ON-OFF-CHG	Controls application of batteries to instrument application or external charges.	Push toggle to right to power instrument. Push left to charge battery.
2	FLOW RATE	LCD continuous readout.	Record values before and after determination cycle for net change in each direction.
3	START	Initiates measurement cycle and heat pulse.	Push to start.
4	READING	Led flashes during elapsed time of measurement cycle.	Do not disturb probe during measurement cycle.
5	N-S-E-W	Selects one of 5 pairs of opposed thermistors in probe when thermistor #1 is oriented to compass North.	Use of monitoring cosine contributions of flow rate in a given compass direction.
6	RESET	Reset timers.	Push to reset buzzer or interrupt a measurement cycle in progress.
7	SPAN	Fine sensitivity adjustment.	Calibrates readout. CW to increase sensitivity. CCW to increase span.
8	CURRENT	Registers amperage to heating element.	Provides information on current flow.

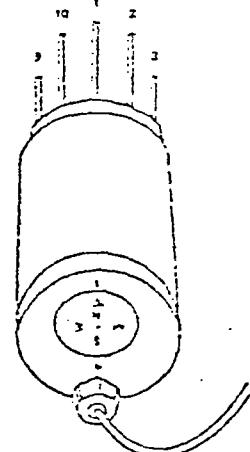
UNDERSTANDING FLOW RATE AND DIRECTION

The rotary switch selects one of five pairs of opposed thermistors. The relative thermal difference is displayed, the polarity of the value indicating which of the two thermistors is reading the higher temperature. With the heat source in the center of a circle of thermistors, flow of water is in the direction of temperature rise in any given pair of thermistors. The set of 10 sensors has been grouped into two halves. The first group consists of thermistors 1 through 5, and the second group 6 through 10. The convention of the LCD display is that second group thermistor values are always subtracted from its opposite thermistor value of the first group. See Figure 3.

For example if thermistor 1 is hotter than its pair, thermistor 6, the display will be a positive value indicating flow (heat) bias in the direction of 1 (or North). Should thermistor 9 be hotter than its pair 4, then flow bias is shown by a negative value display indicating flow towards 9 (or NW). By scanning all five thermistor pairs, one gains information on the relative flow bias in all directions:



3a. Rotary switch Ch. 1, 6
(North-South)



3b. Probe head with compass.

Figure 3 - The ten sensors may be keyed to compass direction.

The Groundwater Flow Meter establishes a transient, radially emanating thermalfield with heat being conducted through the porous soil in which groundwater flows. The instrument measures the alteration of this heat flux influenced by the movement of the water.

With uniform horizontal flow, the net change in each vector readout represents a fraction of the magnitude of the flow in the principle direction, proportional as the cosine of the sensor's vector offset from the in line flow direction. Principle flow direction in a uniform flow field may be derived

by simple vector addition of the 5 vectors, giving a resultant angle. One of the five channels usually has been aligned closely to this resultant angle and its net change in readout is taken as the in line flow rate. Other channels should show some symmetry in a uniform soil matrix, and will often deviate from symmetry in non uniform matrices where flow is disturbed by rocks, debris or invading water flow in a freshly dug measurement hole. See Figure 4. Directional results are most valid when stable water levels are achieved in the hole and the vector array approximates cosine symmetry.

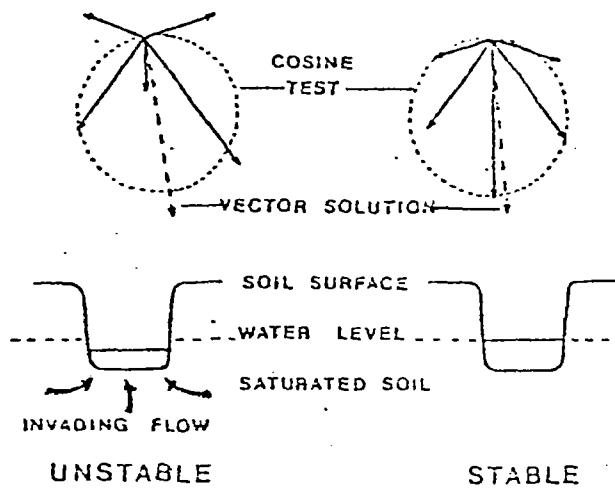


Figure 4 - Cosine symmetry is indicative of uniform flow in soil.

A quick graphic test can be performed by constructing a circle along the axis of direction of main flow obtained from the vector solution. The center is positioned at one half the distance of the vector representing maximum observed flow and a circle drawn with the radius of $\frac{1}{2}$ the maximum flow rate. If the flow is uniform, the tips of the vectors should all lie near the perimeter of the circle.

FIELD PROCEDURE

1. Choose and prepare measurement site area (See HOLE PREPARATION for details).
2. Open instrument box and withdraw probe unit; inspect for serviceability. Individual thermistors should be straight, parallel and clean.
3. With your fingers, sift the wet soil to be measured for about 3-4 inches below the surface to assure there are no rocks, leaves, roots, or other obstructions in the immediate area that would damage the sensors of the probe or interfere with the quality of the flow determination.
4. Pick up the probe unit and, orienting thermistor #1 to compass North, gently insert the prongs of the probe into the sandy soil to its full depth. The probe should be inserted as vertically upright as possible.
5. Allow the water temperatures within the hole to equilibrate for a few minutes. During this period, prepare your data-retrieval form to record site description details, and to record initial bias on any of the 5 channels. (Use the rotary switch; record when readout becomes stable.)
6. Press START. A current of approximately 7 amps should appear on the ammeter and the red LED should flash.
7. Differential changes in the 5 opposed pairs of sensors may be monitored while the measurement is in progress, using the rotary switch. The beeper will sound at about 2 minutes 45 seconds. Press RESET button to silence beeper, and record final readout values on each of the 5 channels.
8. The instrument may now be moved to a new location for another determination.

HOLE PREPARATION

Your groundwater flow meter is intended for use where the saturated water-table is within easy reach of the surface. Six inch diameter holes commonly are no more than arms length deep. (Back hoe or shovel excavations can increase your range).

Your probe has 10 parallel aligned thermal sensors which must be immersed in the wetted soil. The sensors are rugged but to avoid risk of damage by unseen down hole rocks or debris, probe the bottom of the hole first with your fingers. Assure the soil is suitable for safe probe placement. Bring your hole depth just down to the wetted zone. Avoid over digging which may result in the floating of the probe in free water. Allow the hole to stand for as long as required for water invasion to subside.

With gravel, cobblestones, or peat deposits it may not be possible to obtain a uniform flow even under a stable head of water in the hole because of the natural coarseness of the interstitial flow. In such a case, volume rate and directional estimates may be obtained by backfilling with medium sand of known void space.

CALIBRATIONGeneral

A calibration of the instrument is recommended prior to beginning a field study and should be performed on a sample of the major soil type to be encountered. The instrument is intended for use with sandy soils. Much less permeable silts and clays will require provisions for obtaining higher pressure heads to achieve an equivalent flow velocity in the calibration flow chamber. A span control allows the user to adjust the instrument response to his choice of engineering or scalar units of flow.

Equipment

A flow chamber and recirculating water system of low, adjustable throughput are required for calibration of the instrument. See Figure 5 .

A basic flow chamber may be constructed from common plastic drain pipe available at most plumbing supply outlets. A system is constructed of:

- 2 - 90° 3 inch PVC Elbows
- 1 - 3 inch "T" Connector
- 2 - 3 inch lengths of 3 inch PVC Pipe

The sections are joined with PVC cement for a watertight fit. A wooden stand may also be constructed to support the flow chamber, if desired.

The metering pump (0-25 ml/min for a 3" tube) generates a steady state water pressure head between inlet and outlet of the flow chamber. A peristaltic pump is suitable for this purpose.

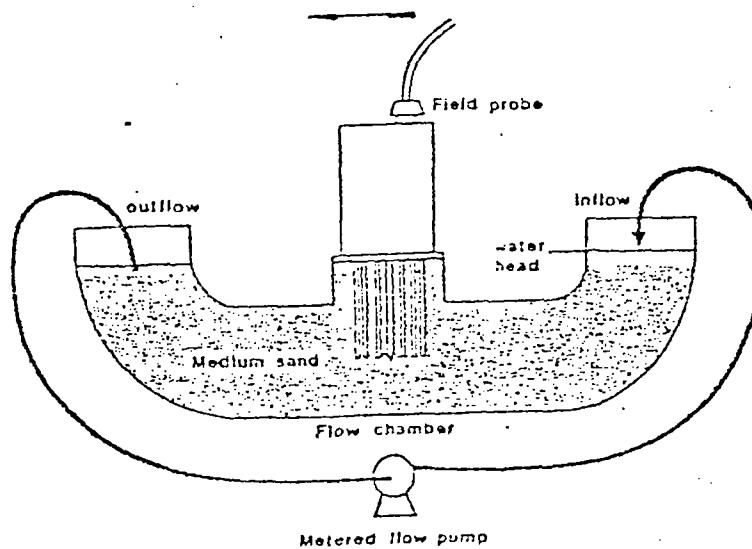


Figure 5 - Flow tube is packed with sandy soil. Water is circulated through the tube at predetermined flow rates.

Procedure

1. Obtain a small bucket full of representative soil and pack tightly to within 2" of tube top. The full cross section of the tube must be completely filled to prevent water short circuiting. Saturate the soil with water (the less dissolved gases the better). Soil and water should be very close to actual ambient temperatures of the soil conditions at the field site under study.
2. Allow 10-20 minutes for soil and water to come to thermal equilibrium. Free water should stand about 1-1 $\frac{1}{2}$ " above soil.
3. Turn ON instrument and hold probe sensors immersed in the free water of the flow tube. Stir briefly then hold still and observe readout values for all five channels. In this water of uniform temperature all channels should read very close to 000 (\pm 002).
4. Insert probe into flow tube as shown in Figure 5. Orient an arbitrary pair of sensors in line with the axis of the flow tube.
5. Set up the adjustable water recirculation system to pump water out of one end of the flow tube and discharge into the other. (A coarse screen filter may be required on the intake side). Flow rates should be variable between 0-25 ml/min.
6. At steady state water head, measure the volumetric pumping rate for one minute and compute velocity of water flow through the tube according to the previously described flowrate equation.
7. Observe readings for each channel. Monitor at 1 minute intervals until a stable equilibrium has been reached. Values should be close to 000.
8. Record values for the five channels on a data sheet as "START". Press the START button. The LED will flash to indicate a measurement cycle is in progress.
9. When the beeper sounds (ca. 2 minutes 45 seconds from start), record the values from respective channels in the end column (B). Do not forget to record sign (either + or -).

10. Subtract column A ("START") from column B ("END"). The difference will represent the component of flow in that sensor direction. You should find the highest magnitude flow in the tube inline direction, with symmetrical values for the channels to either side.
11. Allow about 10 minutes for channels to become constant again before repeating the cycle at a new flow rate.

NOTE: Three flow rates can define a calibration curve of readout versus flow rate of the known soil (suggest 5, 10, 15 ft/day flows). You may also consider calibrating to volume flow in ft^3/ft^2 , feet per day or arbitrary units. As the readout is continuous and does not latch when the beeper sounds, span adjustment should be made at this end point when the beeper sounds. As time continues to pass, the readout value will decay to 000.

TECHNICAL

Your instrument's solid-state circuits are constructed of reliable components which should give long service life.

Internal circuit potentiometers are factory adjusted for operating conditions and should not require field adjustments.

With the heating element not activated the circuit draws about 60 mA. When the heater is activated the panel ammeter provides a convenient monitor of heater operation. The ammeter should show between 6.5-7 A for proper operation. The needle will peak momentarily higher at the outset before settling to a constant value. A much higher reading may indicate a malfunction of the heater tip, while a much lower reading will indicate a need for battery recharge.

CHARGING

Your Dowser Flowmeter should be charged fully prior to each day of intended field usage. A battery charger has been provided and may be plugged into the batteries through a jack on the left hand rear side of the control box panel. Your instrument has two 6v 6 amp-hour batteries in series. The main power switch must be moved to the CHG position to charge the battery. The instrument will not operate in the charge mode, nor charge in the operate mode.

The two-voltage charger contains a manual switch for selecting a "fast" voltage (for 12-16 hour recovery) and a "float" charge, where battery can remain "on-charge" indefinitely.

The indicating lamp extinguishes when battery is 80% charged (50% on float setting). The battery state of charge can be estimated by the brilliance of the indicator lamp. Within a few minutes you will be able to tell if the battery has attained enough capacity for your use.

MAINTENANCE

Rinse probe and cable free of sand, dirt and debris prior to packing into case. Inspect probe sensors regularly for straightness, this is important as precision of readings is related closely to uniform spacing of sensors. Sensors are positioned on 2.25 in diameters, 36° arcs.

GROUNDWATER VELOCITY MEASUREMENT - THEORY

The Model 10 Dowser Groundwater Flow Meter Measures the velocity \bar{v} or Average Near Velocity (Darcy velocity) of interstitial water flow through saturated porous media. If a cross section is taken, any porous substrate, eg. sand, has an area of void space (A_v) and solid space (A_s) which make up the total area (A_t). The porosity (p) for the cross-sectional can be defined by $p = A_v / A_t$. In a porous mass of three-dimensional structure, the solid is penetrated by flow paths in pore spaces. While the flow through the individual channels may be quite variable in direction and rate on a microscopic level, the average linear flow must equal the volume of water transmitted per area (Q/A) or the specific discharge (v) divided by the porosity (p). See Figure 7.

$$\bar{v} = \frac{(Q/A)}{p} = \frac{v}{p}$$

(for more detailed discussion of macroscopic velocities, see Groundwater, Prentice-Hall, Inc., Freeze and Cherry, 1979).

Thus a mathematical expression may be derived between the volumetric transmission rate per cross-sectional area and porosity, useful in calibrating the flowmeter.

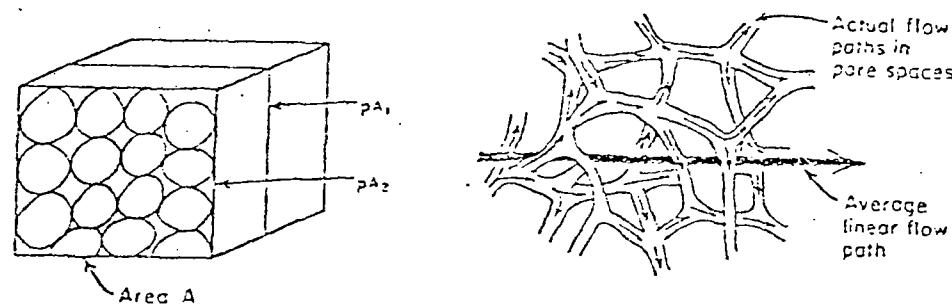


Figure 7 - Concept of flow through pore spaces in soil.

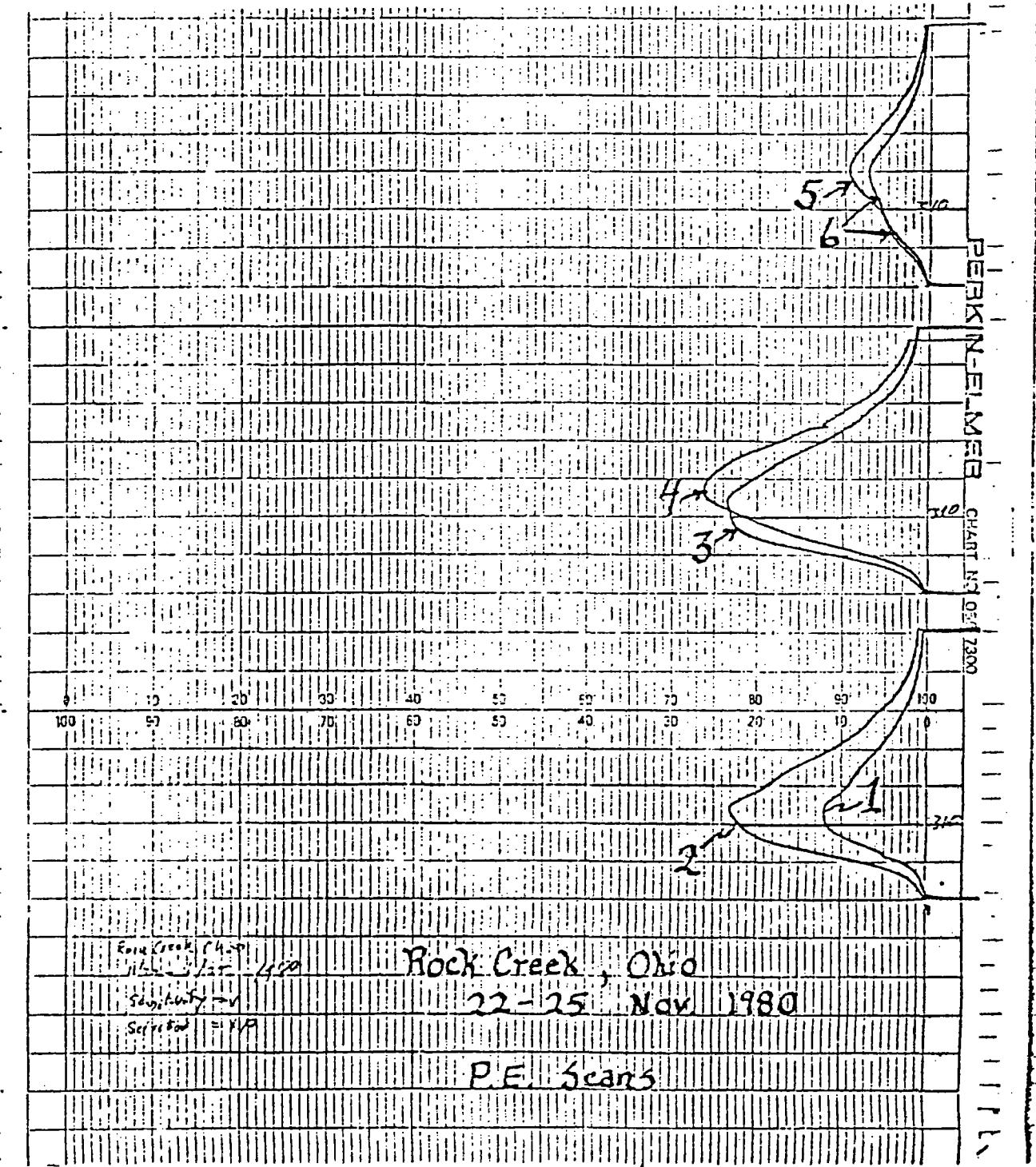
B. FLUORESCENT ORGANIC SCANS

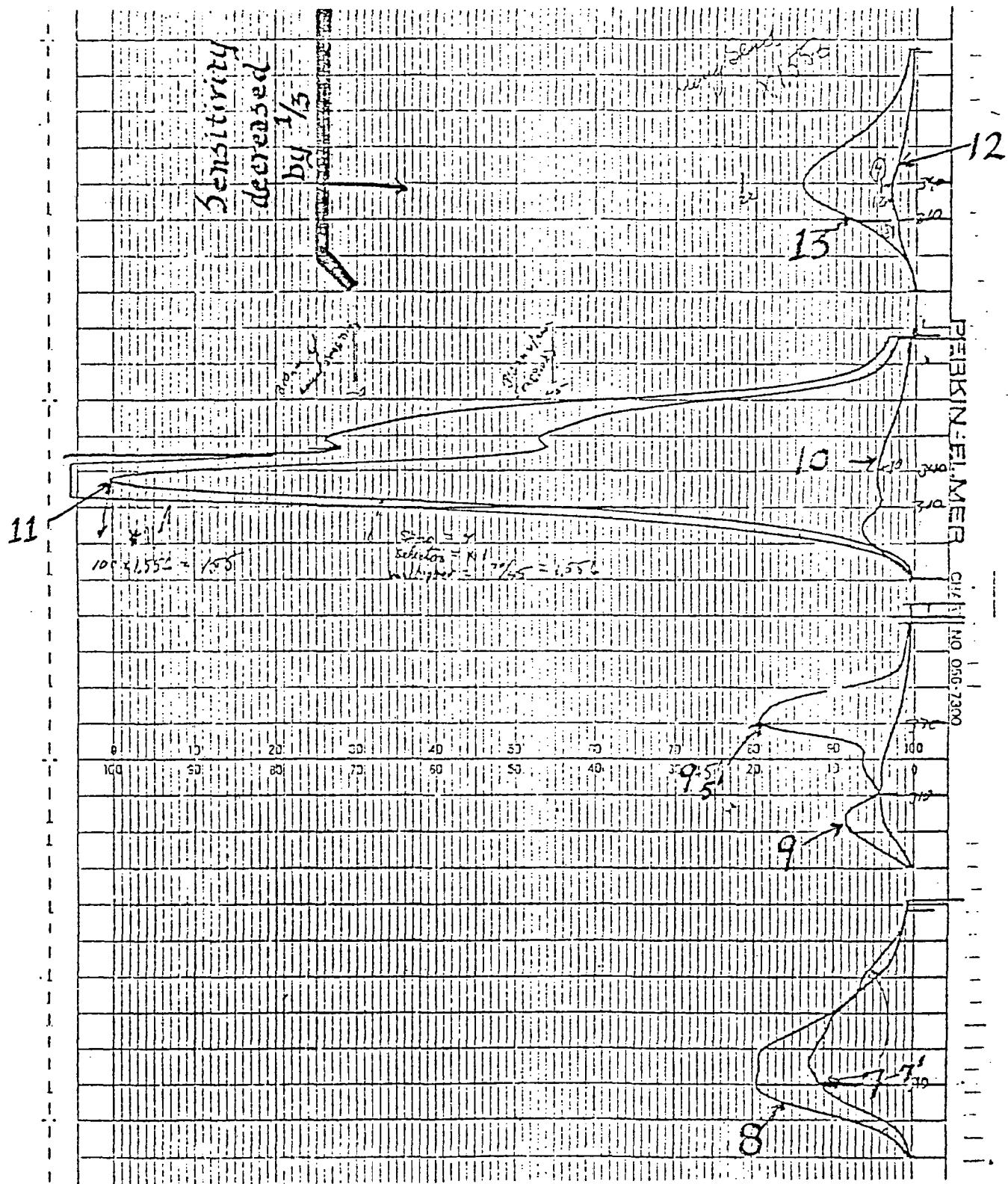
50 nm Synchronous Scans

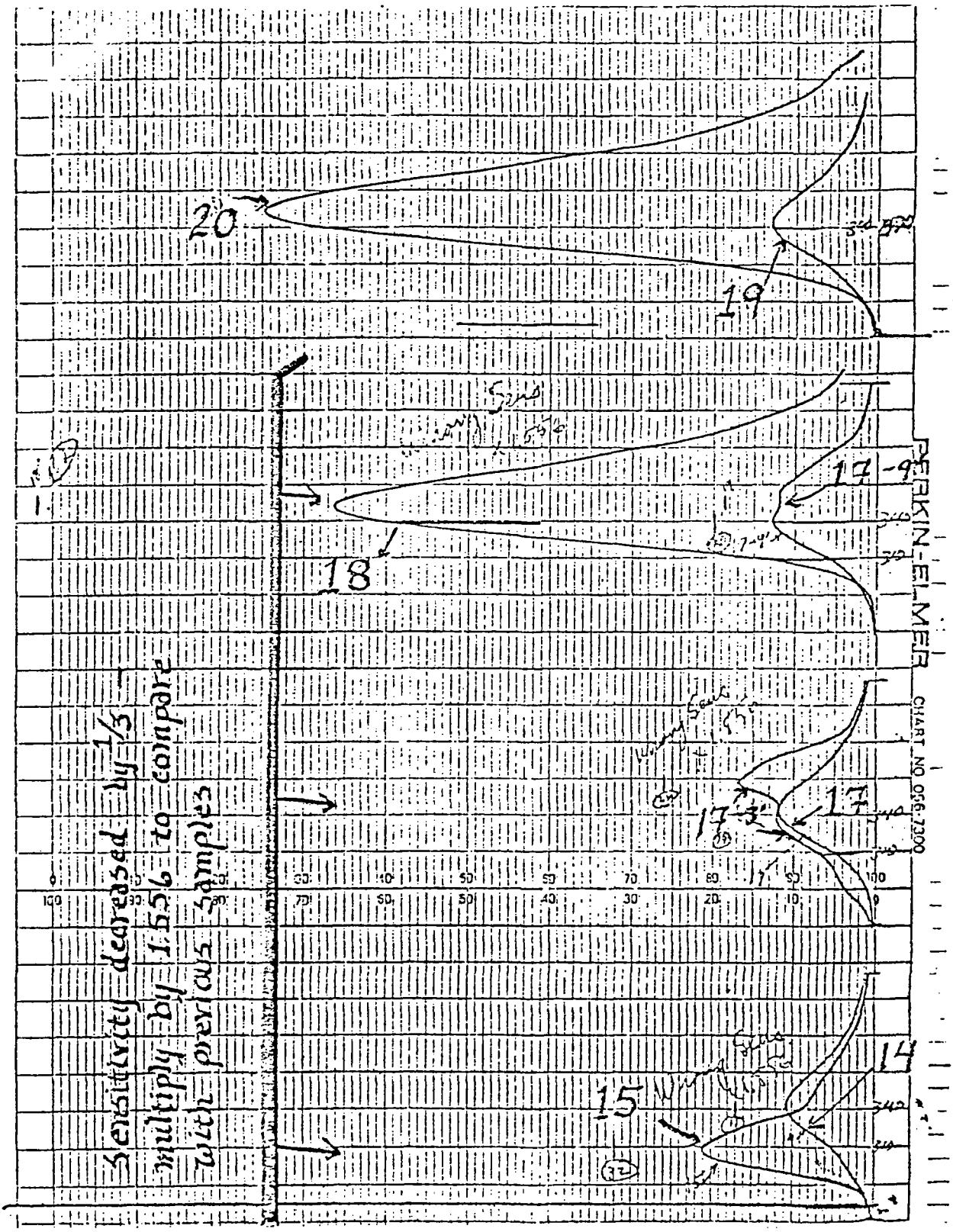
Augered Holes

Well-Point Water Samples

NOVEMBER SAMPLES







23

PEAKIN-EL-MEE

CHART NO. 0552200

21 - distilled
water

22 - motel
tap water

31 Distilled
water

32 Collected
tap water

20-6'

20-75'

0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0

340

31

TREKIN-ELMER CHART NO. 59-7300

27

32

30

31
Select
Run
String

29

Select run
in fiber

100

90

80

70

60

50

40

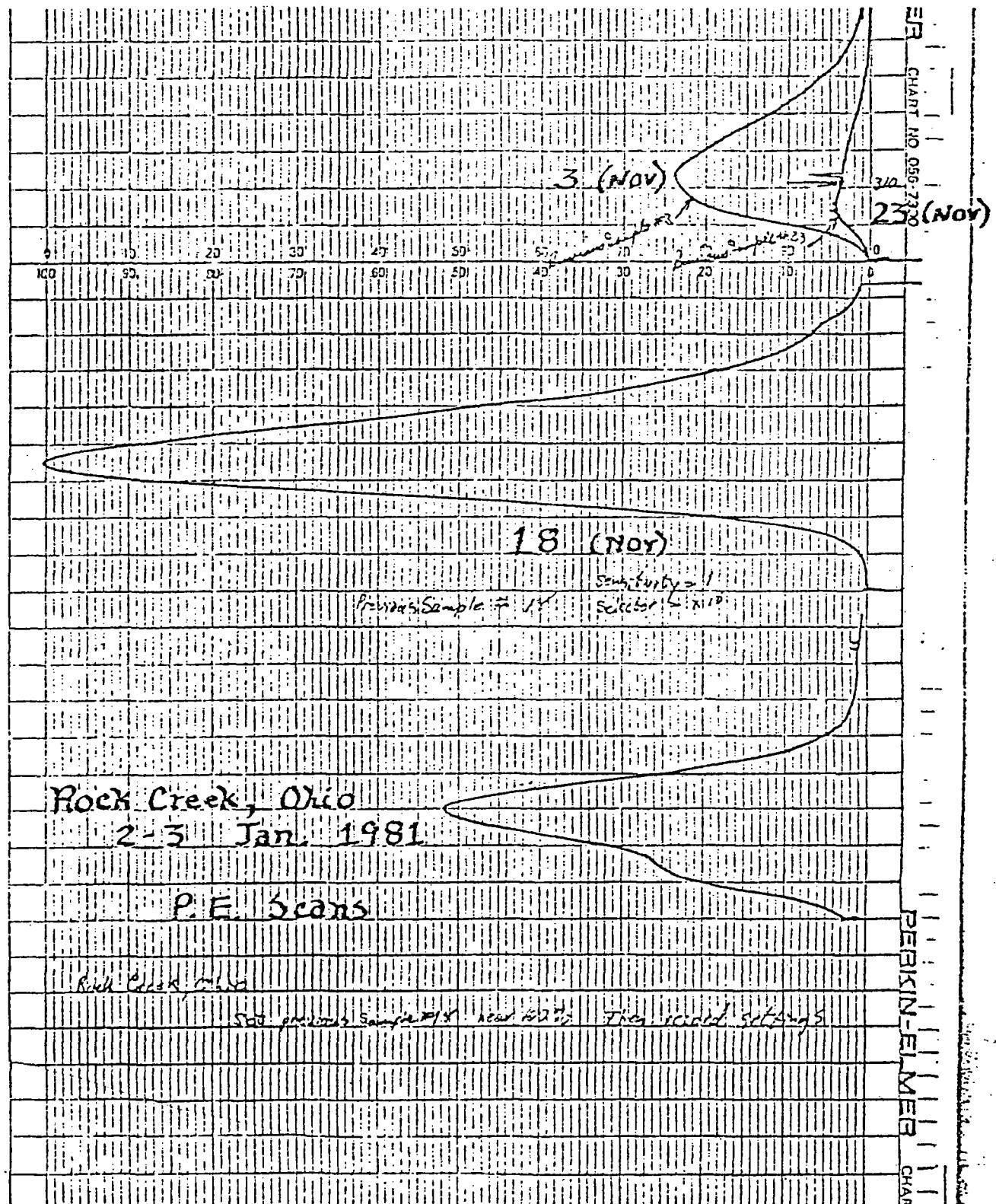
30

20

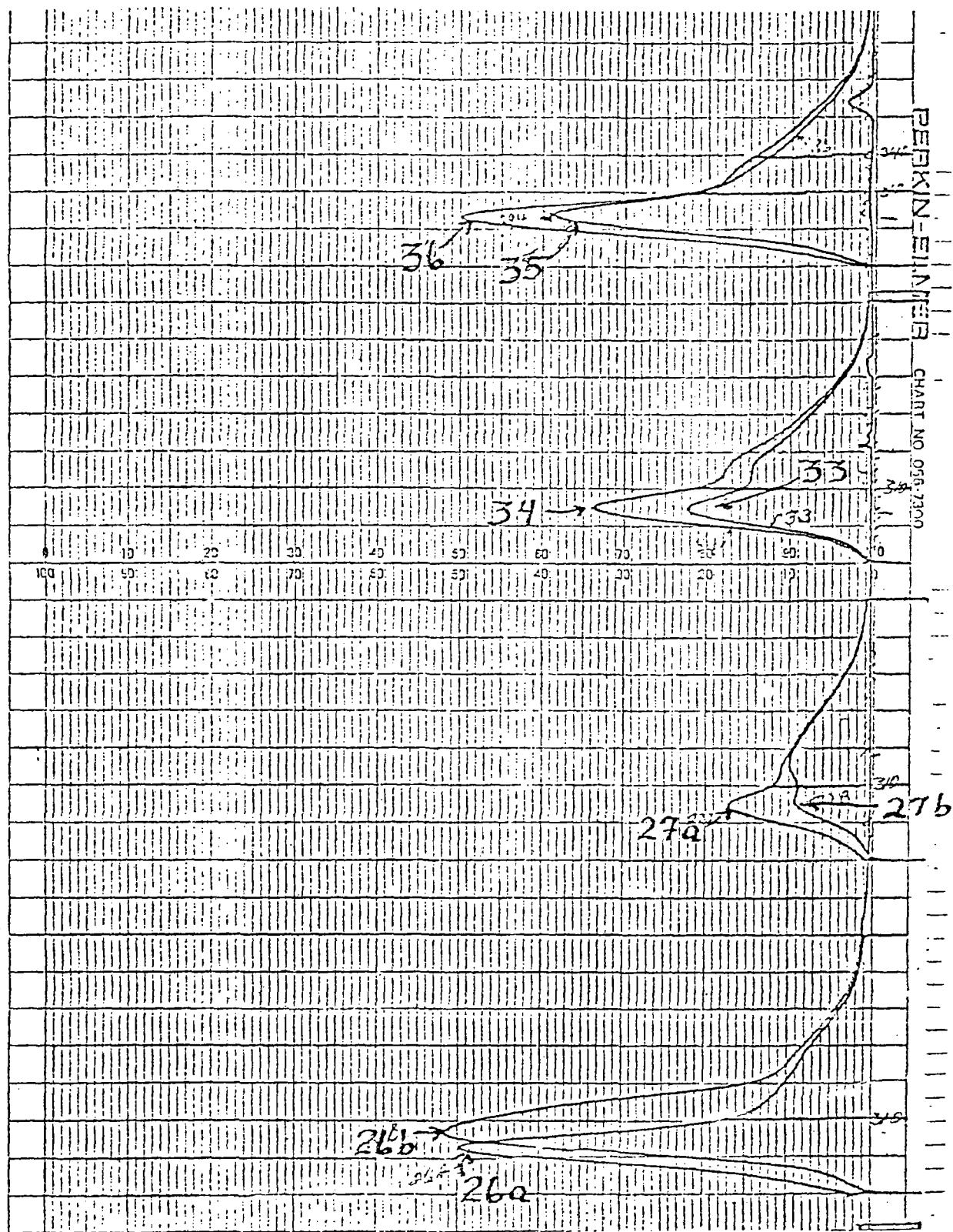
10

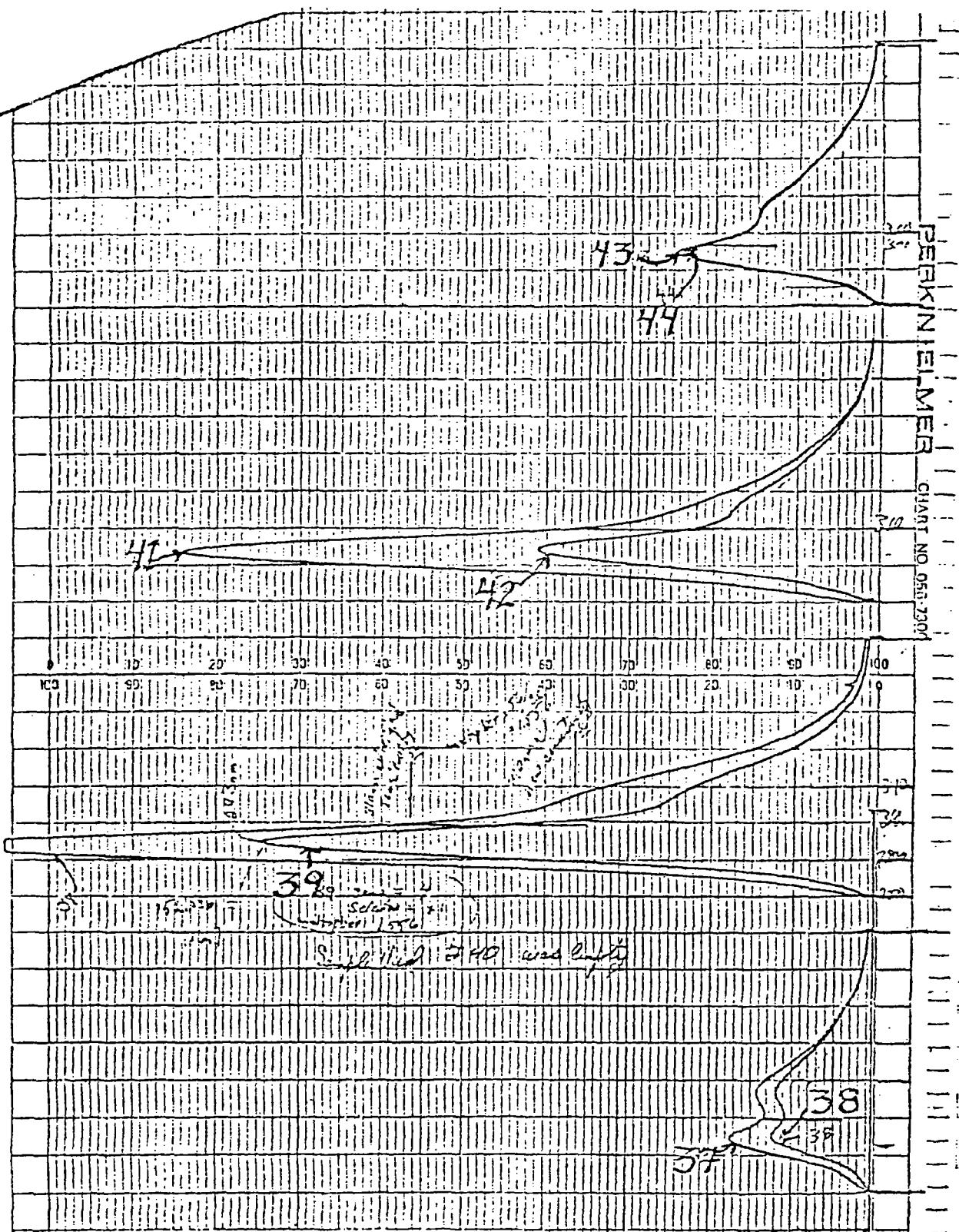
28

JANUARY SAMPLES



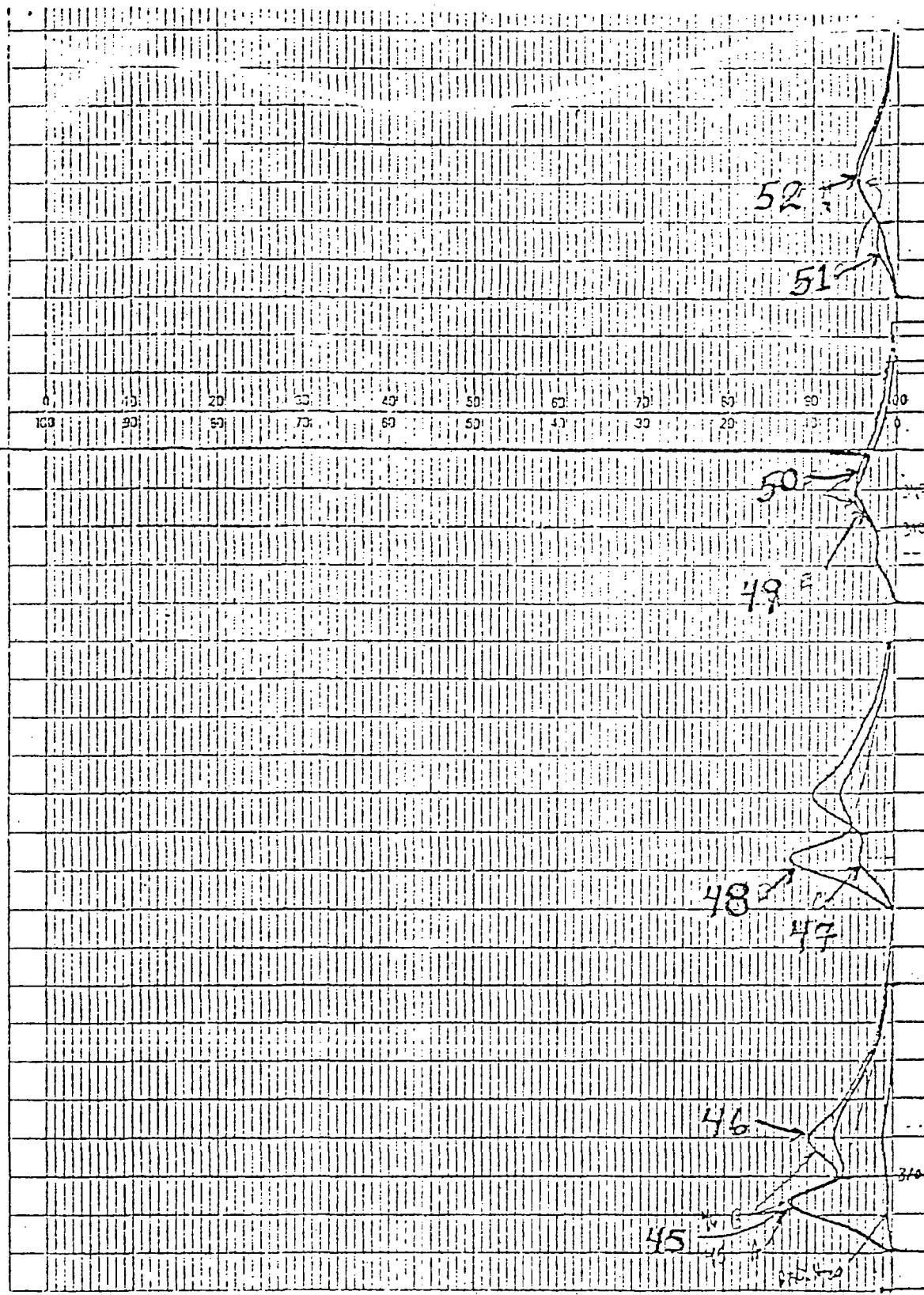
PERKIN-ELMER CHART NO. 0567200





SIN-EL-MER CHIẾU NO 06.2.00

PEKIN-EL-MER



6. EPA SAMPLING, JANUARY - MARCH 1981

SURFACE AND GROUNDWATER SAMPLING SITE

Jack Webb - Dump Site
Rock Creek, Ohio

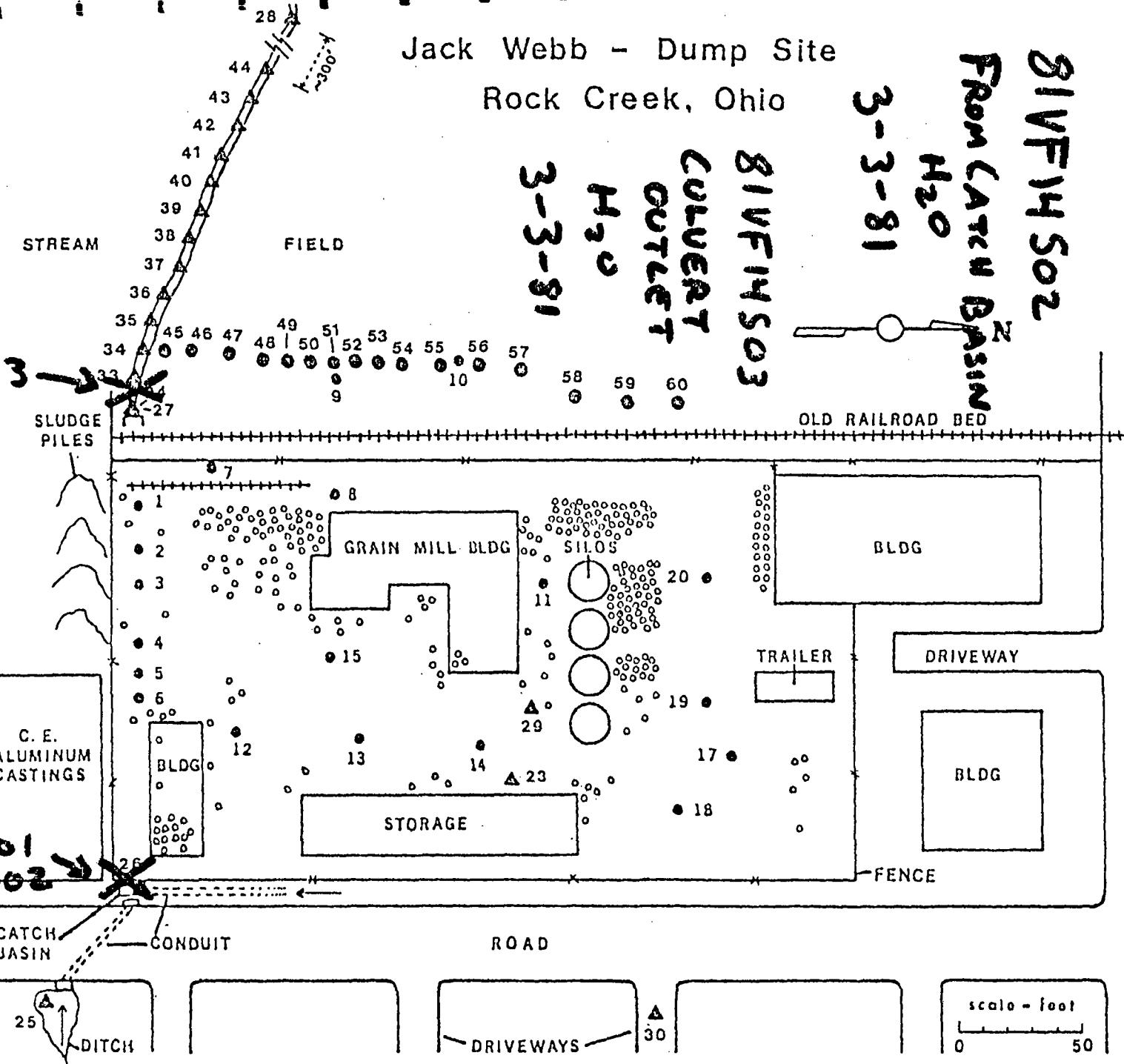


Figure 2. Jack Webb Dump Site

GROUNDWATER SITES ◉
SURFACE WATER SITES ▲

EPA SAMPLES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MARCH 1981

SAMPLES

DATE: March 27, 1981

SUBJECT: Section 311 Analysis of Data Set EEIB - 426 (Rock Creek)

FROM: Curtis Ross, Director
Central Regional Laboratory

TO: Phyllis Reed, Acting Chief *DAR*
Environmental Emergency Investigation Branch

The three samples (81-VF14S01, S02 and S03) of data set EEIB - 426 (Rock Creek) have been analyzed for purgeable organics, with the Central Regional Laboratory established protocol.

Compounds designated in Section 311 were detected in the purgeable fraction (see attached table). The samples are presently being analyzed for Non-Volatile organics and those results will appear in a later report.

Any questions concerning the subject analysis should be addressed to Dr. Ray Liu at (312) 353-9085.

Analytical Result of Data Set EEIB - 426 (Rock Creek)
(Purgeable Fraction)

Compound	Concentration (ppb)		
	VF14S02	VF14S03	VF14S01
Ethene, 1,2-dichloro - (311)	6.1	12	K1
Ethane, trichloro - (311)	0.51	0.73	K1
Ethene, 1, 1,1 - trichloro	15	19	K1
Ethene, trichloro - (311)	9.2	K1	K1
Ethene, tetrachloro	5.1	K1	K1
Ethane, 1,1 ~ dichloro	K1	2.3	K1
Ethane, tetrachloro	K1	1.3	K1
Tenzenene, Methyl - (311)	K1	1.4	K1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: August 18, 1981

SUBJECT: Data Set: EEIB 426 PCB Results
(Jack Webb/Rock Creek)

FROM: Curtis Ross, Director
Central Regional Laboratory

TO: Greg Vanderlaan, Chief
Superfund Sites Section

Because of poor spike recoveries and extremely high detection limits,
we are not releasing CRL's PCB Results for sample numbers: 81-VF14201,
81-VF14S02, and 81-VF14S03. GC/MS scans on these samples did not
reveal any PCB isomers (detection limit approximately 200 ppb).

NAME: T033 VF14S01 FY 200
MISC DATA: 3-27-81 BTL#10 Q8311 D8311

IDFILE FRN: 4611

IDFILE NAME: BASE-NEUTRAL & ACIDIC ANALYSIS
MISC DATA: PRIORITY POLLUTANTS

STANDARD	NAME	CONCENTRATION (PPM)
		973.0
1	1,3-DICHLOROBENZENE	LESS THAN 102.9
2	1,4-DICHLOROBENZENE	LESS THAN 89.9
3	HEXACHLOROETHANE	LESS THAN 72.7
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 29.9
5	N-NITROSODIPOXYLAMINE	LESS THAN 81.4
6	NITROBENZENE	LESS THAN 39.0
7	ISOPHORONE	LESS THAN 181.8
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 40.0
9	1,2-DICHLOROBENZENE	LESS THAN 88.0
10	1,2,4-TRICHLOROBENZENE	LESS THAN 35.8
11	NAPHTHALENE	LESS THAN 16.2
12	HEXACHLOROBUTADIENE	LESS THAN 51.8
13	2-CHLORONAPHTHALENE	LESS THAN 23.9
14	ACENAPHTHYLENE	LESS THAN 20.6
15	DIMETHYLPHthalate	LESS THAN 28.3
16	2,6-DINITROTOLUENE	LESS THAN 70.2
17	ACENAPHTHENE	LESS THAN 23.1
18	2,4-DINITROTOLUENE	LESS THAN 118.5
19	FLUORENE	LESS THAN 27.6
20	DIETHYLPHthalate	LESS THAN 36.9
21	1,2-DIPHENYLHYDRAZINE	LESS THAN 30.9
22	N-NITROSODIPHENYLAMINE	LESS THAN 39.4
23	4-BROMOPHENYLPHENYL ETHER	LESS THAN 41.9
24	HEXACHLOROBENZENE	LESS THAN 31.6
25	1-CHLORONAPHTHALENE	LESS THAN 23.9
26	PHENANTHRENE/ANTHRACENE	LESS THAN 139.8
27	FLUORANTHENE	LESS THAN 35.9
28	PYRENE	LESS THAN 35.9
29	DI-N-BUTYLPHthalate	LESS THAN 19.8
30	BUTYL BENZYLPHthalate	LESS THAN 61.3
31	CHRYSENE	LESS THAN 59.3
32	BENZO(A)ANTHRACENE	LESS THAN 59.3
33	BIS(2-ETHYLHEXYL)PHthalate	LESS THAN 41.2
34	DI-N-OCTYLPHthalate	LESS THAN 134.1
35	BENZO(B)FLUORANTHENE	LESS THAN 88.9
36	BENZO(A)PYRENE	LESS THAN 165.3
37	INDENO(1,2,3-C,D)PYRENE	LESS THAN 57.2
38	DIBENZO(A,H)ANTHRACENE	LESS THAN 120.3
39	BENZO(G,H,I)PERYLENE	LESS THAN 511.2
40	DIBROMOBIPHENYL (ISTD)	LESS THAN 40.4
41	2-NITROPHENOL	LESS THAN 54.9
42	2-CHLOROPHENOL	LESS THAN 33.5
43	PHENOL	LESS THAN 46.9
44	2,4-DIMETHYLPHENOL	LESS THAN 45.7
45	2,4-DICHLOROPHENOL	LESS THAN 45.3
46	P-T-BUTYLPHENOL	LESS THAN 29.1
47	P-CHLORO-M-CRESOL	LESS THAN 160.4
48	2,4,6-TRICHLOROPHENOL	LESS THAN 73.0
49	PENTACHLOROPHENOL	LESS THAN 165.3
50	4-NITROPHENOL	LESS THAN 1363.3

ORGANIC SCAN: DATA SET EEIB 426, SAMPLES COLLECTED IN THE VICINITY OF
ROCK CREEK, MARCH, 1981

CRL SAMPLE NUMBER 81-WF14S01

(UNITS ARE MG/KG)

COMPOUND	ESTIMATED CONCENTRATION
DIMETHYLNAPHTHALENE (2 ISOMERS)	270
TRIMETHYLNAPHTHALENE (1 ISOMER)	44
HYDROCARBONS (17)	3200

MS DATA FILE FRN: 8307

NAME: T032 YF14S02 FV 125

MISC DATA: 3-27-81 BTL#6 Q8307

D8307

IDFILE FRN: 4611

IDFILE NAME: BASE-NEUTRAL & ACIDIC ANALYSIS
MISC DATA: PRIORITY POLLUTANTS

STANDARD	NAME	CONCENTRATION (PPB)
D-10 PHENANTHRENE		4067

1	1,3-DICHLOROBENZENE	LESS THAN 661.1
2	1,4-DICHLOROBENZENE	LESS THAN 577.6
3	HEXACHLOROETHANE	LESS THAN 467.2
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 192.2
5	N-NITROSODIPOXYLAMINE	LESS THAN 523.0
6	NITROBENZENE	LESS THAN 250.3
7	ISOPHORONE	LESS THAN 1168.0
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 257.0
9	1,2-DICHLOROBENZENE	LESS THAN 565.1
10	1,2,4-TRICHLOROBENZENE	LESS THAN 230.0
11	NAPHTHALENE	LESS THAN 104.1
12	HEXACHLOROBUTADIENE	LESS THAN 332.7
13	2-CHLORONAPHTHALENE	LESS THAN 153.7
14	ACENAPHTHYLENE	LESS THAN 132.6
15	DIMETHYLPHthalate	LESS THAN 181.9
16	2,6-DINITROTOLUENE	LESS THAN 451.1
17	ACENAPHTHENE	LESS THAN 148.7
18	2,4-DINITROTOLUENE	LESS THAN 761.7
19	FLUORENE	LESS THAN 177.6
20	DIETHYLPHthalate	LESS THAN 237.3
21	1,2-DIPHENYLHYDRAZINE	LESS THAN 198.3
22	N-NITROSODIPHENYLAMINE	LESS THAN 253.3
23	4-BROMOPHENYLPHENYL ETHER	LESS THAN 269.5
24	HEXACHLOROBENZENE	LESS THAN 202.9
25	1-CHLORONAPHTHALENE	LESS THAN 153.7
26	PHENANTHRENE/ANTHRACENE	16,000
27	FLUORANTHENE	LESS THAN 230.5
28	PYRENE	LESS THAN 230.5
29	DI-N-BUTYLPHthalate	LESS THAN 127.1
30	BUTYL BENZYLPHthalate	LESS THAN 393.7
31	CHRYSENE	LESS THAN 380.9
32	BENZO(A)ANTHRACENE	LESS THAN 380.9
33	BIS(2-ETHYLHEXYL)PHthalate	LESS THAN 264.8
34	DI-N-OCTYLPHthalate	LESS THAN 861.6
35	BENZO(B)FLUOANTHENE	LESS THAN 571.3
36	BENZO(A)PYRENE	LESS THAN 1061.8
37	INDENO(1,2,3-C,D)PYRENE	LESS THAN 367.5
38	DIBENZO(A,H)ANTHRACENE	LESS THAN 772.9
39	BENZO(G,H,I)PERYLENE	LESS THAN 3284.9
40	DIBROMOBIPHENYL (ISTD)	LESS THAN 259.5
41	2-NITROPHENOL	LESS THAN 352.7
42	2-CHLOROPHENOL	LESS THAN 215.4
43	PHENOL	LESS THAN 301.2
44	2,4-DIMETHYLPHENOL	LESS THAN 293.6
45	2,4-DICHLOROPHENOL	LESS THAN 291.2
46	P-T-BUTYLPHENOL	LESS THAN 186.7
47	P-CHLORO-M-CRESOL	LESS THAN 1030.6
48	2,4,6-TRICHLOROPHENOL	LESS THAN 469.3
49	PENTACHLOROPHENOL	LESS THAN 1061.8
50	4-NITROPHENOL	LESS THAN 8759.8

ORGANIC SCAN: DATA SET EEIB 426, SAMPLES COLLECTED IN THE VICINITY OF
ROCK CREEK, MARCH, 1981

CRL SAMPLE NUMBER 81-VF14S02

(UNITS ARE UG/L)

COMPOUND	ESTIMATED CONCENTRATION
4-ETHYL-1,2-DIMETHYLBENZENE	8000
1,2,3,4-TETRAHYDRO-6-METHYLNAPHTHALENE	13000
METHYLNAPHTHALENE (2 ISOMERS)	56000.
DIMETHYLNAPHTHALENE (4 ISOMERS)	86000.
TRIMETHYLNAPHTHALENE (5 ISOMERS)	79000.
1,2,3,4-TETRAHYDRO-1,8-DIMETHYLNAPHTHALENE	4000
1-METHYL-7-(1-METHYLETHYL)NAPHTHALENE	8200
METHYLPHENANTHRENE/METHYLANTHRACENE (3 ISOMERS)	26000
DIMETHYLPHENANTHRENE / DIMETHYLANTHRACENE (1 ISOMER)	12000
UNIDENTIFIED HYDROCARBONS (27)	941000.

NAME: T832 S1-VF14S03 FV 8000

MISC DATA: 3-27-81

BTL#4 Q8305

D8305

IDFILE FRN: 4611

IDFILE NAME: BASE-NEUTRAL & ACIDIC ANALYSIS

MISC DATA: PRIORITY POLLUTANTS

	NAME	CONCENTRATION (PPB)
		247.0

STANDARD D-10 PHENANTHRENE

1	1, 3-DICHLOROBENZENE	LESS THAN 30.7
2	1, 4-DICHLOROBENZENE	LESS THAN 26.8
3	HEXACHLOROETHANE	LESS THAN 21.7
4	BIS(2-CHLOROETHYL)ETHER	LESS THAN 8.9
5	N-NITROSODIPROPYLAMINE	LESS THAN 24.3
6	NITROBENZENE	LESS THAN 11.6
7	ISOPHORONE	LESS THAN 54.2
8	BIS(2-CHLOROETHOXY)METHANE	LESS THAN 11.9
9	1, 2-DICHLOROBENZENE	LESS THAN 26.2
10	1, 2, 4-TRICHLOROBENZENE	LESS THAN 10.7
11	NAPHTHALENE	LESS THAN 4.8
12	HEXACHLOROBUTADIENE	LESS THAN 15.4
13	2-CHLORONAPHTHALENE	LESS THAN 7.1
14	ACENAPHTHYLENE	LESS THAN 6.1
15	DIMETHYLPHthalATE	LESS THAN 8.4
16	2, 6-DINITROTOLUENE	LESS THAN 28.9
17	ACENAPTHENE	LESS THAN 6.9
18	2, 4-DINITROTOLUENE	LESS THAN 35.3
19	FLUORENE	LESS THAN 8.2
20	DIETHYLPHthalATE	LESS THAN 11.0
21	1, 2-DIPHENYLHYDRAZINE	LESS THAN 9.2
22	N-NITROSODIPHENYLAMINE	LESS THAN 11.7
23	4-BROMOPHENYLPHENYL ETHER	LESS THAN 12.5
24	HEXACHLOROBENZENE	LESS THAN 9.4
25	1-CHLORONAPHTHALENE	LESS THAN 7.1
26	PHENANTHRENE/ANTHRACENE	LESS THAN 41.7
27	FLUORANTHENE	LESS THAN 10.7
28	PYRENE	LESS THAN 5.9
29	DI-N-BUTYLPHthalATE	LESS THAN 18.3
30	BUTYL BENZYLPHthalATE	LESS THAN 17.7
31	CHRYSENE	LESS THAN 17.7
32	BENZO(A)ANTHRACENE	LESS THAN 12.3
33	BIS(2-ETHYLHEXYL)PHthalATE	LESS THAN 48.0
34	DI-N-OCTYLPHthalATE	LESS THAN 26.5
35	BENZO(B)FLUORANTHENE	LESS THAN 49.2
36	BENZO(A)PYRENE	LESS THAN 17.0
37	INDENO(1, 2, 3-C, D)PYRENE	LESS THAN 35.9
38	DIBENZO(A, H)ANTHRACENE	LESS THAN 152.4
39	BENZO(G, H, I)PERYLENE	LESS THAN 12.0
40	DIBROMOBIPHENYL (ISTD)	LESS THAN 16.4
41	2-NITROPHENOL	LESS THAN 10.9
42	2-CHLOROPHENOL	LESS THAN 14.0
43	PHENOL	LESS THAN 13.6
44	2, 4-DIMETHYLPHENOL	LESS THAN 13.5
45	2, 4-DICHLOROPHENOL	LESS THAN 8.7
46	P-T-EUTYLPHENOL	LESS THAN 47.8
47	P-CHLORO-M-CRESOL	LESS THAN 21.8
48	2, 4, 6-TRICHLOROPHENOL	LESS THAN 49.2
49	PENTACHLOROPHENOL	LESS THAN 406.3
50	4-NITROPHENOL	

ORGANIC SCAN: DATA SET EEIB 426, SAMPLES COLLECTED IN THE VICINITY OF
ROCK CREEK, MARCH, 1981

CRL SAMPLE NUMBER 81-YE14503
(UNITS ARE ug/L)

ESTIMATED
CONCENTRATION

IND	18000
+ NAPHTHALENE (2 ISOMERS)	480000
- METHYLNAPHTHALENE (4 ISOMERS)	220000
(1) ETHYLNAPHTHALENE (3 ISOMERS)	41000.
- (1-METHYLETHYL) NAPHTHALENE	37000
1-METHYLETHYL)NAPHTHALENE	4800000
+ DROCARBONS (20)	

7. NOVEMBER 1981 DRUM SAMPLING
AND COMPOSITE RESULTS

TO: Joe Fredle, Eastern District Office

From: Technical Assistance Team Region V

Via: Scott McCone

Subject: Old Mill Creek Cleanup Site (Jack Webb) Rock Creek Ohio
(TDD# 5-8111-7)

Date: December 9, 1981

I. Comments:

From November 9, 1981 to November 25, 1981 TAT members assisted Joe Fredle from the Eastern District Office in the cleanup of the Mill Creek site in Rock Creek, Ohio. The TAT members logged and assisted in labeling of all samples collected by the contractor, Environmental Pollution Control Services Inc. of Akron, Ohio. They logged any drum information present, took pictures for documentation, conducted air monitoring, and acted as safety coordinator. TAT members then conducted Rx Halogen (chlorination) and flammability test on the samples to determine compatibility of the substances within the drums for purposes of removal.

926 drums were labeled not all were sampled because some were empty and others were hauled away by Houghson Chemical of Pennsylvania. The site was divided into sections from A to G with the drums lettered and numbered according to the section they were found in. Class hazard designation for the site was "C".

II. Sample Preparation and Protocol for Sampling of Drum Contents and Compatability Testing

Sample Preparation

A one pint jar and vial was used for each drum sampled. The jar would be used for any extra sample needed and air monitoring data recorded from an HNU Photoionizer. The vials would be used for open cup flammability and Rx halogen (chlorine) tests. Labels were stick-ons, placed on the sides of the jars and vials. The caps were plastic.

Procedure for Drum Samples

Four foot glass rods were used as pipets to siphon sample from a drum. Drums were opened by using a bung wrench or spark proof pick. Samples were released into a glass jar and vial. They were then put into cardboard boxes and large plastic bags for shipping and storage. Vials were put into separate plastic bags.

Procedure for Flash-Point Analysis and Compatability Testing

Sample vials were heated in a pan of water on a hot plate (40° - 50°). Using a propane torch each vial was touched with a flame to see if it would ignite. A flame would mean a positive reaction and the sample is flammable. The R_x halogen test was conducted to test for chlorine in the samples. Using a copper wire dipped in a sample and then passing the wire thru a flame chlorine could be detected. A green color in the flame would be a positive reaction for chlorine.

An HNU reading of < 10 would possibly signify an aqueous sample and a separate test would be performed on these using an oxidation-reduction (ph) meter. Spatulas and crucibles were also used for some samples. All testing in the lab was done under a hood.

March 18, 1982

ANALYTICAL RESULTS

No. 1093

ENVIRONMENTAL POLLUTION CONTROL SERVICES
2160 Jergens Road
Dayton, Ohio 45414

Attn: Ralph Moore

Samples: Solvent Samples Received 2-23-82

	<u>Flammable Halogenated</u>	<u>Non-Flammable Halogenated*</u>	<u>Flammable Non-Halogenated</u>
Flash Point	<25°C	28°C	<25°C
Sulfur	0.511%	0.650%	0.145%
BTU/lb	10,650	----	10,280
	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>
Lead	1.15	27.2	3.55
Mercury	<0.0067	<0.0067	<0.0067

*Additional analysis requested to follow.

< - Less Than

Approved

JILL MALEARN

**HOWARD
LABORATORIES,
INC.**

3601 S. DIXIE DRIVE
DAYTON, OHIO 45439
(513) 294-6856

MAILING ADDRESS:
POST OFFICE BOX 369
DAYTON, OHIO 45449

June 9, 1982

Mr. Kenny Gossard
ENVIRONMENTAL POLLUTION, INC.
250 N. Cleveland-Massillon Road
Akron, Ohio 44313

Re: Analytical Results Nos. 1836 and 1837

Dear Mr Gossard:

Attached are Howard Laboratories' Analytical Results Nos. 1836 and 1837 which require some background explanation.

On February 23, 1982, Mr. Ralph Moore of Environmental Pollution Control Service, Dayton, Ohio, dropped off three samples identified as:

- 1) Flammable Halogenated
- 2) Non-flammable Halogenated
- 3) Flammable Non-Halogenated

These samples were to be analyzed for Flash Point, Sulfur, Lead, and Mercury.

On March 1, 1982, Mr. Moore requested that a Gross Caloric Value (BTU/lb) determination be added. These results were reported on Analytical Results No. 1093 dated March 18, 1982. No BTU value was reported for the sample identified as Non-flammable Halogenated, due to insufficient volume for that submitted sample.

On March 4, 1982, Mr. Moore requested that a recheck of the Flash Point and a GC Scan for organic constituents be performed on the Non-flammable Halogenated sample and that additional sample would be provided to complete the analysis.

On March 17, 1982, two additional samples were provided. One was to complete the requested analysis, and the second was to be tested for the same *Resampled* parameters, except that a GC/MS Scan was to be performed. This sample was identified as Rock Creek, chlorinated.

These analyses were completed and the results verbally conveyed to Mr. Moore. He was informed that the Non-flammable Halogenated sample was in fact, flammable and showed the solvents identified by GC. The second sample revealed presence of other chlorinated components and base/neutral priority pollutants.

Mr. Kenny Gossard

-2-

June 9, 1982

Mr. Moore then advised that he would be sending additional quantities of the Flammable Halogenated and Flammable Non-Halogenated samples to be combined with the Non-flammable Halogenated sample and analyzed for a complete priority pollutants analysis. (The GC/MS Scan is based upon a direct injection technique and technically is not a protocol procedure. However, it does give an indication of compounds present and may be indicative that further analysis is warranted).

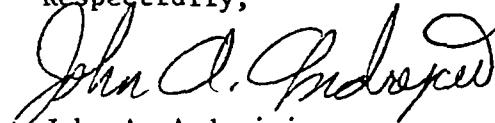
However, this request was not carried out, as a breakdown of communications ensued, apparently due to the termination of EPSC's Dayton operations. As a consequence, results were not typed and sent out. We regret any inconvenience that may have occurred.

We have retained all samples submitted (they are in glass containers), except for the very first sample volume portions dropped off for initial analysis.

If there exists any confusion over these samples, or you wish us to proceed with the final, combined, priority pollutant analysis, or have any questions at all, please do not hesitate to call.

Again, we regret any inconveniences that may have been caused by delays in the written reporting of the results.

Respectfully,


John A. Andrejcio
Technical Representative

JAA:jb

Attachments

**HOWARD
LABORATORIES,
INC.**

3601 S. DIXIE DRIVE
DAYTON, OHIO 45439
(513) 294-6856

MAILING ADDRESS:
POST OFFICE BOX 369
DAYTON, OHIO 45449

June 9, 1982

ANALYTICAL RESULTS

No. 1836

ENVIRONMENTAL POLLUTION, INC.
250 N. Cleveland-Massillon Road
Akron, Ohio 44313

Attn: Kenny Gossard

Sample: Non-flammable Halogenated (#2 Sample) Received 2-23-82 - Additional Analyses Requested 3-4-82 - Additional Sample Received 3-17-82

Flash Point <26 °C

BTU/lb 995

GC Solvent Scan:

Ethanol
MEK
Xylene
Trichloroethylene

< - Less Than

Approved



**HOWARD
LABORATORIES,
INC.**

3601 S. DIXIE DRIVE
DAYTON, OHIO 45439
(513) 294-6856

MAILING ADDRESS:
POST OFFICE BOX 369
DAYTON, OHIO 45449
June 9, 1982

ANALYTICAL RESULTS

No. 1837

ENVIRONMENTAL POLLUTION, INC.
250 N. Cleveland-Massillon Road
Akron, Ohio 44313

Attn: Kenny Gossard

Sample: Oily Sample (Rock Creek Non-flammable Chlorinated) Received 3-17-82

Flash Point	<26°C
BTU/lb	4,411
Sulfur	1.12 %
Lead	134 mg/Kg As Is
Mercury	0.241 " " "

GC/MS Scan:

MEK
Methylene Chloride
1,2-Dichloroethane
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Xylenes
Chlorotoluene
Cyclopentacycloheptene
Naphthalene
1 Methyl (or 2 methyl) Naphthalene
Acenaphthylene, 1,2-Dihydro
Dibenzofuran
Fluorene
Anthracene
Phenanthrene

< - Less Than

Approved

**HOWARD
LABORATORIES,
INC.**

3601 S. DIXIE DRIVE
DAYTON, OHIO 45439
(513) 294-6856

MAILING ADDRESS:
POST OFFICE BOX 369
DAYTON, OHIO 45449

July 20, 1982

Mr. Kenny Gossard
ENVIRONMENTAL POLLUTION CONTROL SERVICE
250 N. Cleveland-Massillon Road
Akron, Ohio 44313

Dear Mr. Gossard:

Attached is Howard Laboratories' Analytical Results No. 2215 covering the sample composited by combining 100 ml aliquots of each of the samples identified below:

Non-flammable Halogenated - Received 3-17-82
Rock Creek Non-flammable Chlorinated - Received 3-17-82
Flammable Halogenated - Received 3-26-82
Flammable Non-halogenated - Received 3-26-82

Aliquots were then removed for specific analyses to include metals, fluoride, chloride, cyanide, viscosity, iodine, BTU, sulfur, ash content, and other parameters. Particular importance was placed upon the organic analysis. The organic aliquot was subjected to U.S. EPA Method 625 and U.S. EPA Method 624 analyses as per protocol (Federal Register December 3, 1979). In the Method 625, additional GC/MS analysis included a capillary column for better separations of components. Specific ion monitoring (SIM) of the priority pollutants was conducted as well as total ions (Acquire program). Method 624 was also supported by Method 601, utilizing a Tekmar LSC-2 purge and trap device equipped with a Tekmar ALS (ten position auto sampler) and a Hall (HECD) detector equipped Tracor 560 GC. All columns and conditions were those described in the December 3, 1979 Federal Register.

The Interim U.S. EPA Method 8.4 was utilized for PCB determinations. This method utilizes sulfuric acid clean-up to remove interferences. Analyses were performed on HP5880A GC's with auto samplers and Level four equipment. These instruments were calibrated on five levels (concentrations) of PCB's. The columns and conditions for the GC's were those specified in U.S. EPA Method 608. All priority pollutant standards were derived from U.S. EPA Research Triangle Park or EMSL and supplemented by standards from Supelco. Non-priority pollutant standards were reagent grade or "Nanograde" chemicals.

GC/MS analyses are stored on a nine track magnetic tape using U.S. EPA Archival Storage Program Format and are available on tape and hard copy upon request.

Mr. Kenny Gossard

-2-

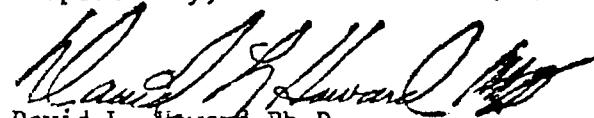
July 20, 1982

Each of the original four samples was analyzed for xylene using a 50 meter SE54 capillary column on a HP5880A GC. This analysis was performed to support the fact that xylene concentration in the combined sample was high enough to indicate that it must have been present in at least three of the individual samples. The combined sample yielded xylene concentrations of 72.1% and therefore would, of necessity, have been present in at least three of the individual samples. Xylene was present in all four individual samples.

The SIM program indicated that most of the priority pollutant organic compounds were present. Due to the high concentrations of certain compounds, the detection levels were increased significantly. Concentrations below 5000 ppm (0.5%) were not quantitated even though SIM indicated their presence.

If you have any questions regarding the data, do not hesitate to call.

Respectfully,



David L. Howard Ph.D.
President

DLH:jb

Attachment

cc: Joseph Fredle, U.S. EPA, Cleveland

**HOWARD
LABORATORIES,
INC.**

3601 S. DIXIE DRIVE
DAYTON, OHIO 45439
(513) 294-6856

MAILING ADDRESS:
POST OFFICE BOX 369
DAYTON, OHIO 45449

July 19, 1982

ANALYTICAL RESULTS

No. 2215

ENVIRONMENTAL POLLUTION CONTROL SERVICE
250 N. Cleveland-Massillon Road
Akron, Ohio 44313

Attn: Kenny Gossard

Sample: Composite Sample of Samples Received 3-17 & 3-26-82

The following four samples were composited:

- 1) Non-flammable Halogenated
- 2) Rock Creek Non-flammable Chlorinated
- 3) Flammable Halogenated
- 4) Flammable Non-halogenated

pH	1.50 S.U.
Specific Gravity	1.025 g/cc
Flash Point	<24 °C
Vapor Pressure @ 100°F	0.90
Viscosity @ 100°F	105.82 centistokes
BTU/lb	8,060
Sulfur	0.290 %
Ash Content	0.20 "
L69	
}	
Suspended Solids	39,120 mg/L
Chloride	72,300
Fluoride	32.73
Iodine	<508
Total Cyanide	<0.005
Cadmium	4.06
Lead	59.40
Potassium	66.00
Beryllium	0.004
Sodium	420.00
Arsenic	0.059
Mercury	0.021

Environmental Pollution Control
Analytical Results No. 2215

-2-

July 19, 1982

Fool

GC/MS Scan:

	%
Water	5.0
Xylene	72.1
1,1,1-trichloroethane	7.8
Tetrachloroethylene	4.6
Naphthalene	1.4
2-methyl naphthalene	1.2
1,2-dihydro acenaphthylene	1.6
Dibenzofuran	1.1
Anthracene	0.82
Phenanthrene	0.75
Fluoranthene	1.04
Pyrene	1.08
PCB's	PCB 1242 325 mg/L (ppm) PCB 1260 300 " 625 "

Balance

Traces of most base
neutral compounds.

< - Less Than
> - Greater Than

cc: Joe Fredle, U.S. EPA, Cleveland

Approved

Ronald J. Howard, M.S.

8. PCB DRUM IDENTIFICATION

UNITED STATES GOVERNMENT

memorandum

DATE: October 20, 1982

REPLY TO
ATTN OF: Michael J. Urban, Analytical Chemist *m.j. Urban*
Analytical Support Section, ERB

SUBJECT: PCB Quantitation - Rock Creek, Ohio

TO: Joseph Fredle, EPA, Region V
West Lake, Ohio

Following is a list of estimated levels of PCB's found in samples collected from the Old Mill Site, Rock Creek, Ohio. These values represent a very rough estimate of the actual level of PCB's present. Please keep this in mind when using this data.

PCB - conc (ppm)

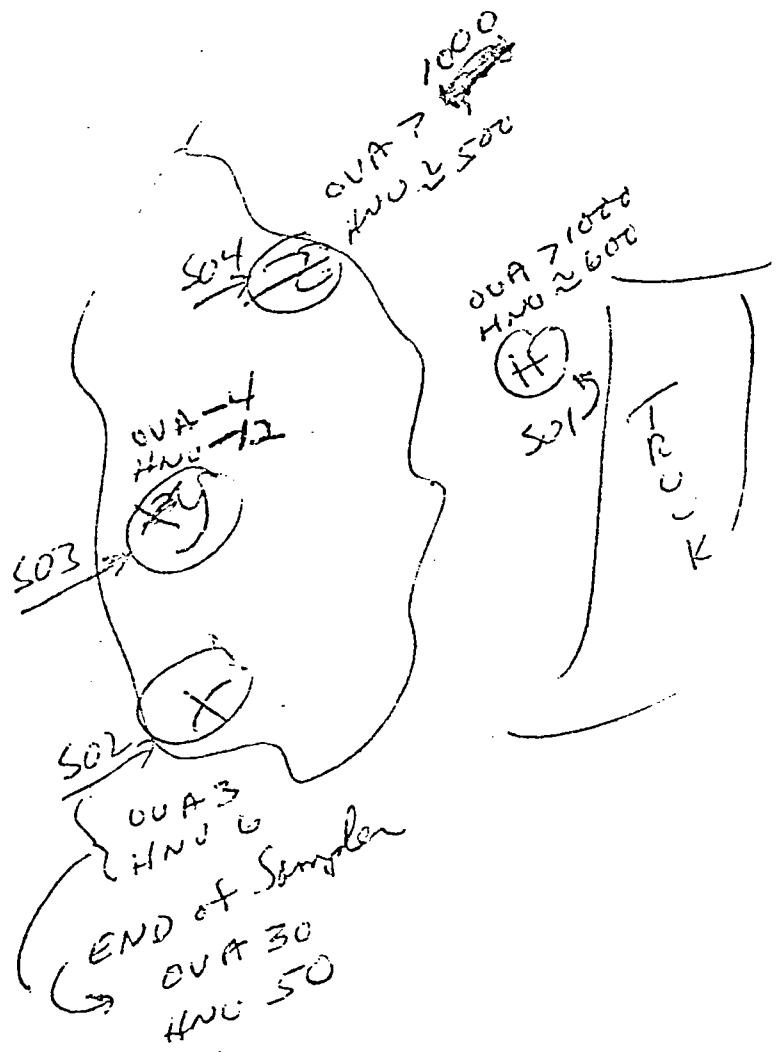
13/D110	600 *
14/E21	1500 *
15A/D166	500 *
15A/E188	1000 *
20/C9	100
26/C505	50 *
26/C508	2800 *
5/C80	50
5/D130	50
5/D39	50
5A/D151	1200
8/E197	500 *
7/E208	<50 *

* PC T's also present
in sample.

NOTE: All PCB's detected were Aroclor 1260 except 5A/D151 which contained Aroclor 1242.

If you need any additional information, don't hesitate to call -
(FTS 340-6689).

9. DRUM SAMPLES - NEW DRUM SITE
(KRAUS SITE)



AIR Monitoring / Drum Sampling
Stretch of New Drum Site (KRAUS SITE)

Rock Creek, OHIO

Sept. 14, 1982

JSF

With Mike Uekan - ERT

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY

SAMPLE ID E5097 501
 LAB ID 24491V8
 DATE INJECTED 10/1/82
 STD ID VOA419 BFB301
 CONC. FACTOR 1.0G /10ml MeOH

SAMPLE ID No SAMPLE
 LAB ID _____
 DATE EXTRACTED _____
 DATE INJECTED _____
 STD ID _____
 CONC. FACTOR _____

Volatiles		ug/g
2V	acrolein	0.5U
3V	acrylonitrile	
4V	benzene	
6V	carbon tetrachloride	
7V	chlorobenzene	
10V	1,2-dichloroethane	
11V	1,1,1-trichloroethane	
13V	1,1-dichloroethane	
14V	1,1,2-trichloroethane	
15V	1,1,2,2-tetrachloroethane	
16V	chloroethane	
17V	bis(chloromethyl) ether	
19V	2-chloroethylvinyl ether	
23V	chloroform	
29V	1,1-dichloroethylene	
30V	1,2-trans-dichloroethylene	
32V	1,2-dichloropropane	
33V	1,3-dichloropropylene	✓
38V	ethylbenzene	34
44V	methylene chloride	27
45V	methyl chloride	0.5U
46V	methyl bromide	
47V	bromoform	
48V	dichlorobromomethane	
49V	trichlorofluoromethane	
50V	dichlorodifluoromethane	
51V	chlorodibromomethane	
85V	tetrachloroethylene	✓
86V	toluene	5K
87V	trichloroethylene	0.5U

Pesticides		ug/g
89P	aldrin	NA
90P	dieldrin	
91P	chlordan	
92P	4,4'-DDT	
93P	4,4'-DDE	
94P	4,4'-DDD	
95P	alpha-endosulfan	
96P	beta-endosulfan	
97P	endosulfan sulfate	
98P	endrin	
99P	endrin aldehyde	
100P	heptachlor	
101P	heptachlor epoxide	
102P	alpha-BHC	
103P	beta-BHC	
104P	gamma-BHC	
105P	delta-BHC	
106P	PCB-1242	
107P	PCB-1254	
108P	PCB-1221	
109P	PCB-1232	
110P	PCB-1248	
111P	PCB-1260	
112P	PCB-1016	
113P	toxaphene	✓

U = Analyzed for but not detected

K = Detected below quantitation limit.

** = Not confirmed by GCMS

(501)

Sample Number
E5097

Q.C. Report No: _____

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. (ug/g)	(Surrogates Only)	
			Spiked Added (ug/g)	% Recovery
1,2-Dichloroethane-d4	VOA	30	25	120
Benzene-d6	VCA	22	25	88
Ethylbenzene-d10	VOA	23	25	92
Phenol-d5	BNA	63	100	63
2-Fluorophenol	BNA	330	600	55
Nitrobenzene-d5	BNA	340	600	57
Pyrene-d10	BNA	89	100	89
Decafluorobiphenyl	BNA	95	100	95
1,2,3,4-TCDD	TCDD	110 NE/G	100 NE/G	110

B. TENTATIVELY IDENTIFIED COMPOUNDS

Conc. (ug/g)	COMPOUND NAME	FRACTION	MAXIMUM SCORE ATTAINED
2000	UNKNOWN	BNAP #450	NO GOOD FIT
200	2,2'-OXYBIS ETHANOL	BNAP #576	731
1000	UNKNOWN	BNAP #638	NO GOOD FIT
80	UNKNOWN	BNAP #650	NO GOOD FIT
80	1,2-BENZENEDICARBOXYLIC ACID	BNAP #831	927
100	UNKNOWN	BNAP #905	NO GOOD FIT
60	UNKNOWN	BNAP #1255	NO GOOD FIT
300	UNKNOWN	BNAP #1410	NO GOOD FIT
400	UNKNOWN	BNAP #1532	NO GOOD FIT
900	UNKNOWN	BNAP #1655	NO GOOD FIT
400	UNKNOWN	BNAP #1739	NO GOOD FIT
400	UNKNOWN	BNAP #1891	NO GOOD FIT
8000	STYRENE	VOA # 390	990
4.			
5.			
6.			
17.			

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY

SAMPLE ID E5098 SO₂
LAB ID 24491V4
DATE INJECTED 10/1/82
STD ID VOA419 BPB301
CONC. FACTOR 10⁻⁶ - 10ml MeOH

SAMPLE ID No Sample
LAB ID _____
DATE EXTRACTED _____
DATE INJECTED _____
STD ID _____
CONC. FACTOR _____

Volatiles ug/g

2V acrolein 500

3V acrylonitrile

4V benzene

6V carbon tetrachloride

7V chlorobenzene

10V 1,2-dichloroethane

11V 1,1,1-trichloroethane

13V 1,1-dichloroethane

14V 1,1,2-trichloroethane

15V 1,1,2,2-tetrachloroethane

16V chloroethane

17V bis(chloromethyl) ether

19V 2-chloroethylvinyl ether

23V chloroform

29V 1,1-dichloroethylene

30V 1,2-trans-dichloroethylene

32V 1,2-dichloropropane

33V 1,3-dichloropropylene

38V ethylbenzene 18,000

44V methylene chloride 610

45V methyl chloride 500

46V methyl bromide

47V bromoform

48V dichlorobromomethane

49V trichlorofluoromethane

50V dichlorodifluoromethane

51V chlorodibromomethane

85V tetrachloroethylene

86V toluene 510

87V trichloroethylene 500

Pesticides ug/g

89P aldrin NA

90P dieldrin

91P chlordane

92P 4,4'-DDT

93P 4,4'-DDE

94P 4,4'-DDD

95P alpha-endosulfan

96P beta-endosulfan

97P endosulfan sulfate

98P endrin

99P endrin aldehyde

100P heptachlor

101P heptachlor epoxide

102P alpha-BHC

103P beta-BHC

104P gamma-BHC

105P delta-BHC

106P PCB-1242

107P PCB-1254

108P PCB-1221

109P PCB-1232

110P PCB-1248

111P PCB-1260

112P PCB-1016

113P toxaphene

U = Analyzed for but not detected

K = Detected below quantitation limit.

** = Not confirmed by GCMS

SO2

 Sample Number
 E5098

Q.C. Report No: _____

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. (ug/g)	(Surrogates Only)	
			Spkce Added (ug/g)	% Recovery
1,2-Dichloroethane-d4	VOA	2600	2500	104
Benzene-d6	VOA	2400	2500	96
Ethylbenzene-d10	VOA	2700	2700	108
Phenol-d5	BNA	42	100	42
2-Fluorophenol	BNA	440	600	73
Nitrobenzene-d5	BNA	340	600	57
Pyrene-d10	BNA	140	100	140
Decafluorobiphenyl	BNA	190	100	190
1,2,3,4-TCDD	TCDD	13 ^{NE/6}	100 ^{NE/6}	(13)

B. TENTATIVELY IDENTIFIED COMPOUNDS

Conc. (ug/g)	COMPOUND NAME	FRACTION	% Maximum Score Attained MASS MATCHING RULE: FIT
1. 400	TOLUENE	BNAP # 215	1000
2. 4000	UNKNOWN	BNAP # 412	NO GOOD FIT
3. 3000	ETHYLDIMETHYL BENZENE	BNAP # 442	930
4. 800	ETHYL METHYL BENZENE	BNAP # 470	950
5. 2000	UNKNOWN	BNAP # 541	NO GOOD FIT
6. 7000	UNKNOWN	BNAP # 783	NO GOOD FIT
7. 2000	UNKNOWN	BNAP # 843	NO GOOD FIT
8. 200	UNKNOWN	BNAP # 966	NO GOOD FIT
9. 800	CYCLOHEXYLESTER-2-PROPENOIC ACID	BNAP # 1036	878
10. 500	UNKNOWN	BNAP # 1118	NO GOOD FIT
11. 400	UNKNOWN	BNAP # 1155	NO GOOD FIT
12. 3000	UNKNOWN	BNAP # 1271	NO GOOD FIT
13. 800	PHTHALATE	BNAP # 1313	GENERAL FIT
14. 5000	UNKNOWN	BNAP # 1385	NO GOOD FIT
15. 4000	UNKNOWN	BNAP # 1392	NO GOOD FIT
16. 1000	PHTHALATE	BNAP # 1462	GENERAL FIT
17. 600	UNKNOWN	BNAP # 1470	NO GOOD FIT

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY

SAMPLE ID ES099 503
 LAB ID 24491V9
 DATE INJECTED 10/1/82
 STD ID VOA419 BFB301
 CONC. FACTOR 1.0g / 10ml MeOH

SAMPLE ID No Sample
 LAB ID _____
 DATE EXTRACTED _____
 DATE INJECTED _____
 STD ID _____
 CONC. FACTOR _____

<u>Volatiles</u>		<u>ug/g</u>
2V	acrolein	5000U
3V	acrylonitrile	
4V	benzene	
6V	carbon tetrachloride	
7V	chlorobenzene	
10V	1,2-dichloroethane	
11V	1,1,1-trichloroethane	
13V	1,1-dichloroethane	
14V	1,1,2-trichloroethane	
15V	1,1,2,2-tetrachloroethane	
16V	chloroethane	
17V	bis(chloromethyl) ether	
19V	2-chloroethylvinyl ether	
23V	chloroform	
29V	1,1-dichloroethylene	
30V	1,2-trans-dichloroethylene	
32V	1,2-dichloropropane	
33V	1,3-dichloropropylene	
38V	ethylbenzene	
44V	methylene chloride	60,000
45V	methyl chloride	5000U
46V	methyl bromide	
47V	bromoform	
48V	dichlorobromomethane	
49V	trichlorofluoromethane	
50V	dichlorodifluoromethane	
51V	chlorodibromomethane	
85V	tetrachloroethylene	
86V	toluene	
87V	trichloroethylene	

<u>Pesticides</u>		<u>ug/g</u>
89P	aldrin	NA
90P	dieldrin	
91P	chlordan	
92P	4,4'-DDT	
93P	4,4'-DDE	
94P	4,4'-DDD	
95P	alpha-endosulfan	
96P	beta-endosulfan	
97P	endosulfan sulfate	
98P	endrin	
99P	endrin aldehyde	
100P	heptachlor	
101P	heptachlor epoxide	
102P	alpha-BHC	
103P	beta-BHC	
104P	gamma-BHC	
105P	delta-BHC	
106P	PCB-1242	
107P	PCB-1254	
108P	PCB-1221	
109P	PCB-1232	
110P	PCB-1248	
111P	PCB-1260	
112P	PCB-1016	
113P	toxaphene	

U = Analyzed for but not detected

K = Detected below quantitation limit

** Not confirmed by GCMS

503

Sample Number
E5099

Q.C. Report No: _____

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. (ug/g)	(Surrogates Only)	
			Spike (ug/g)	% Recovery
1,2-Dichloroethane-d4	VCA	291,000	250,000	116
Benzene-d6	VCA	227,000	250,000	91
Ethylbenzene-d10	VCA	232,000	250,000	93
Phenol-d5	BNA	65	100	65
2-Fluorophenol	BNA	250	600	42
Nitrobenzene-d5	BNA	350	600	58
Pyrene-d10	BNA	79	100	79
Decafluorobiphenyl	BNA	87	100	87
1,2,3,4-TODD	TODD	50±6	100±6	50

B. TENTATIVELY IDENTIFIED COMPOUNDS

Conc. (ug/g)	COMPOUND NAME	FRACTION	MAXIMUM SCORING RULE: FIT
1. 400	ETHYL FORMATE	BNA #423	826
2. 3000	CELLSOLVE ACETATE	BNA #472	838
3. 400	UNKNOWN	BNA #534	NO GOOD FIT
4. 800	ETHYLENE GLYCOL DIACETATE	BNA #553	962
5. 200	UNKNOWN	BNA #614	NO GOOD FIT
6. 200	UNKNOWN	BNA #674	NO GOOD FIT
7. 200	UNKNOWN	BNA #749	NO GOOD FIT
8. 900	UNKNOWN	BNA #833	NO GOOD FIT
9. 100	UNKNOWN	BNA #914	NO GOOD FIT
10. 400	UNKNOWN	BNA #938	NO GOOD FIT
11. 200	UNKNOWN	BNA #1011	NO GOOD FIT
12. 60	UNKNOWN	BNA #109	NO GOOD FIT
13. 200	UNKNOWN	BNA #1193	NO GOOD FIT
14. 100	UNKNOWN	BNA #1227	NO GOOD FIT
15. 400	UNKNOWN	BNA #1316	NO GOOD FIT
16. 600	UNKNOWN	BNA #1329	NO GOOD FIT
17. 200	UNKNOWN	BNA #1800	NO GOOD FIT

503

Q.C. Report No: _____

Sample Number
E 5099

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. (ug/g)	(Surrogates Only)	
			Spike Added (ug/g)	% Recovery
1,2-Dichloroethane-d4	VOA	NA	NA	NA
Benzene-d6	VOA			
Ethylbenzene-d10	VOA			
Phenol-d5	BNA			
2-Fluorophenol	BNA			
Nitrobenzene-d5	BNA			
Pyrene-d10	BNA			
Decafluorobiphenyl	BNA			
1,2,3,4-TCDD	TCDD			

B. TENTATIVELY IDENTIFIED COMPOUNDS

	Conc. (ug/g)	COMPOUND NAME	FRACTION	% Maximum Score Attained MASS MATCHING ROUTINE: FIT
1.	200	UNKNOWN	BNA #18CR	NO GOOD FIT
2.	1000	UNKNOWN	BNA #511	NO GOOD FIT
3.	1,000,000	STYRENE	VOA # 446	984
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				

SAMPLE ID E5100 82EF01504
 LAB ID 24491F8
 DATE EXTRACTED 9/29/82
 DATE INJECTED 9/30/82
 STD ID SE54SENS371 BNAPZ04
 CONC FACTOR 2.26 : 22mLs

Acid Compounds	ug/g
21A 2,4,6-trichlorophenol	104
22A p-chloro-m-cresol	
24A 2-chlorophenol	
31A 2,4-dichlorophenol	
34A 2,4-dimethylphenol	130
57A 2-nitrophenol	104
58A 4-nitrophenol	
59A 2,4-dinitrophenol	
60A 4,6-dinitro-o-cresol	
61A pentachlorophenol	
65A phenol	260

Base/Neutral Compounds

17 acenaphthene	104
52 benzidine	
63 1,2,4-trichlorobenzene	
93 hexachlorobenzene	
127 hexachloroethane	
163 bis(2-chloroethyl)ether	
207 2-chloronaphthalene	
253 1,2-dichlorobenzene	
263 1,3-dichlorobenzene	
273 1,4-dichlorobenzene	
293 3,6'-dichlorobenzidine	
353 2,4-dinitrotoluene	
363 2,6-dinitrotoluene	
373 1,2-diphenylhydrazine (as azobenzene)	
393 fluoranthene	
423 4,4,4,5-tetrachlorobenzene	

SAMPLE ID COMBINED FRACTION
 LAB ID
 DATE EXTRACTED
 DATE INJECTED
 STD ID
 CONC FACTOR

Base/Neutral Compounds	ug/g
41B 4-bromophenoxy phenyl ether	104
42B bis(2-chloroethyl)ether	
43B bis(2-chlorophenoxy) methane	
52B hexachlorobutadiene	
53B hexachlorocyclopentadiene	
54B isophorone	
55B naphthalene	
56B nitrobenzene	
61B N-nitrosodimethylamine	
62B N-nitrosodiphenylamine	
63B N-nitrosodim-n-propylamine	
66B bis(2-ethylhexyl) phthalate	100K
67B butyl benzyl phthalate	100K
68B di-n-butyl phthalate	100K
69B di-n-cetyl phthalate	104
70B diethyl phthalate	
71B dimethyl phthalate	
72B benzylidene anthracene	
73B benzoic/pvpane	
74B 3,4-benzofluoranthene	
75B benzo(k)fluoranthene	
76B chrysene	
77B acenaphthylene	
78B anthracene	
79B benzo[ghi]perylene	
80B fluorene	
81B phenanthrene	
82B dibenz(a,h)anthracene	
83B indeno(1,2,3-cd)pyrene	
84B pyrene	
100B 2,2,2,5-tetrachlorobenzene	10

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY

SAMPLE ID E5100 504
 LAB ID 24491VG
 DATE INJECTED 10/1/82
 STD ID V0A419 BFB301
 CONC. FACTOR 106 / 10 ml MeOH

SAMPLE ID No Sample
 LAB ID _____
 DATE EXTRACTED _____
 DATE INJECTED _____
 STD ID _____
 CONC. FACTOR _____

Volatiles		ug/g
2V	acrolein	5000U
3V	acrylonitrile	
4V	benzene	
6V	carbon tetrachloride	
7V	chlorobenzene	
10V	1,2-dichloroethane	
11V	1,1,1-trichloroethane	
13V	1,1-dichloroethane	
14V	1,1,2-trichloroethane	
15V	1,1,2,2-tetrachloroethane	
16V	chloroethane	
17V	bis(chloromethyl) ether	
19V	2-chloroethylvinyl ether	
23V	chloroform	
29V	1,1-dichloroethylene	
30V	1,2-trans-dichloroethylene	
32V	1,2-dichloropropane	
33V	1,3-dichloropropylene	
38V	ethylbenzene	74,000
44V	methylene chloride	61,000
45V	methyl chloride	5000U
46V	methyl bromide	
47V	bromoform	
48V	dichlorobromomethane	
49V	trichlorofluoromethane	
50V	dichlorodifluoromethane	
51V	chlorodibromomethane	
85V	tetrachloroethylene	
86V	toluene	200,000
87V	trichloroethylene	5000U

Pesticides		ug/g
89P	aldrin	NA
90P	dieldrin	
91P	chlordane	
92P	4,4'-DDT	
93P	4,4'-DDE	
94P	4,4'-DDD	
95P	alpha-endosulfan	
96P	beta-endosulfan	
97P	endosulfan sulfate	
98P	endrin	
99P	endrin aldehyde	
100P	heptachlor	
101P	heptachlor epoxide	
102P	alpha-BHC	
103P	beta-BHC	
104P	gamma-BHC	
105P	delta-BHC	
106P	PCB-1242	
107P	PCB-1254	
108P	PCB-1221	
109P	PCB-1232	
110P	PCB-1248	
111P	PCB-1260	
112P	PCB-1016	
113P	toxaphene	

U = Analyzed for but not detected

K = Detected below quantitation limit.

** = Not confirmed by GCMS

SO4

Sample Number
E5100

Q.C. Report No: _____

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. (ug/g)	(Surrogates Only)	
			Spiked Added (ug/g)	% Recovery
1,2-Dichloroethane-d4	VOA	274,000	250,000	110
Benzene-d6	VOA	262,000	250,000	105
Ethylbenzene-d10	VOA	233,000	250,000	93
Phenol-d5	BNA	120	100	120
2-Fluorophenol	BNA	350	600	58
Nitrobenzene-d5	BNA	420	600	70
Pyrene-d10	BNA	130	100	130
Decafluorobiphenyl	BNA	130	100	130
1,2,3,4-TCDD	TCDD	71NG/6	100NG/6	71

B. TENTATIVELY IDENTIFIED COMPOUNDS

Conc. (ug/g)	COMPOUND NAME	FRACTION	MAXIMUM SCORE MASS MATCHING ROUTINE
1. 700	UNKNOWN	BNAP #253	NO GOOD FIT
2. 7000	UNKNOWN	BNAP #293	NO GOOD FIT
3. 1000	BUTYLESTERACETICACID	BNAP #354	899
4. 6000	ETHYLDIMETHYL BENZENE	BNAP #287	875
5. 4000	ETHYLDIMETHYL BENZENE	BNAP #458	888
6. 3000	ETHYL METHYL BENZENE	BNAP #483	949
7. 1000	CHLOROMETHYL BENZENE	BNAP #508	900
8. 1000	HYDROCARBON	BNAP #588	GENERAL FIT
9. 1000	METHYLHEPTYLESTER OF PROPANOICACID	BNAP #765	954
10.			
11. 500	UNKNOWN	BNAP #865	NO GOOD FIT
12. 2000	UNKNOWN	BNAP #896	NO GOOD FIT
13. 500	UNKNOWN	BNAP #923	NO GOOD FIT
14. 700	BHT	BNAP #985	993
15. 2000	UNKNOWN	BNAP #1368	NO GOOD FIT
15. 900	UNKNOWN	BNAP #1375	NO GOOD FIT
17. 2000	UNKNOWN	BNAP #1413	NO GOOD FIT

Q.C. Report No: _____

504

Sample Number
E500 cont

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. (ug/g)	(Surrogates Only)	
			Spike Added (ug/g)	% Recovery
1,2-Dichloroethane-d4	VOA	NA	NA	NA
Benzene-d6	VOA			
Ethylbenzene-d10	VOA			
Phenol-d5	BNA			
2-Fluorophenol	BNA			
Nitrobenzene-d5	BNA			
Pyrene-d10	BNA			
Decafluorobiphenyl	BNA			
1,2,3,4-TCDD	TCDD	↓	↓	↓

B. TENTATIVELY IDENTIFIED COMPOUNDS

Conc. (ug/g)	COMPOUND NAME	FRACTION	% Maximum Score Attained MASS MATCHING ROUTINE: FIT
400	PHthalate	BNAP #1457	GENERAL FIT
3000	UNKNOWN	BNAP #1629	NO GOOD FIT
250,000	4-METHYL-2-PENTANONE	VOA #277	954
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			

10.

OCTOBER 5, 1982 SAMPLING

EPA PROJECT
ECOLOGY AND ENVIRONMENT, INC.
MEMORANDUM: REGION V

COST CENTER EP151-5

TO: Mr. Robert Bowden
FROM: Technical Assistance Team
VIA: Mr. Scott McCone, TATL
SUBJECT: Sampling at Rock Creek and Laskins Waste Oil (TDD#5-8207-16)
DATE: October 8, 1982

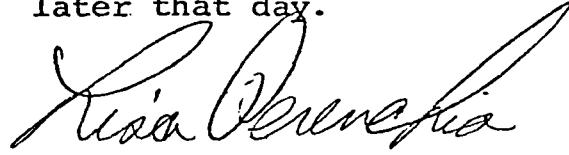
COMMENTS:

On Tuesday - October 5, 1982, TAT members Scott McCone, Jerry Kelly, Lisa Perenchio, and Sue Ahrendt arrived at the Old Mill Site in Rock Creek, Ohio. Four soil samples were taken from the new drum site as well as twenty-one water samples from residential wells and surface water in the area.

Once this was completed, TAT members Scott McCone, Jerry Kelly, and Lisa Perenchio traveled to the Laskins Waste Oil site in Jefferson, Ohio. Twenty-three samples were taken from the oil tanks at the site.

On Wednesday - October 6, 1982, the remaining four oil samples were taken from the vertical tanks. The samples were packed for shipment and transported off site.

On Thursday - October 7, 1982, the samples from Laskins Waste Oil site were dropped off at Emery Express, Cleveland, Ohio. Due to a last minute change of laboratories, the water samples and soil samples were dropped off at Emery Express, Chicago later that day.



Lisa Perenchio

OLD MILL SITE SAMPLING
ROCK CREEK, OHIO

SAMPLE NUMBER	TIME	LOCATION
82CY14	(10/5/82)	
S01	1100	Bevin's Well
S02	1117	Thompson Well 2789 Jefferson Street
S03	1130	Cone Well 2816 East Water Street
S04	1145	Carson Well 2623 Maple
S05	1155	Highlander Well 2681 Maple
S06	1205	F & D Hall Sump 3924 Mill Street
S07	1210	F & D Hall Well 3924 Mill Street
S08	1220	McClusky Pond 2746 Station Street
S09	1225	Gill Well 2733 Station
S10	0845	Pond at north end of new drum site
S11	1018	Pond in back of 2789 Jefferson Street
S12	1400	M & B Hall Sump 3274 Mill Street
S13	Not Taken	
S14	0935	Post hole #11; C section of site

OLD MILL SITE SAMPLING

ROCK CREEK, OHIO

(Continued)

SAMPLE NUMBER	TIME	LOCATION
S15	1000	Bevin's City Water Tap 2732 Jefferson Street
S16	0915	Ditch at southwest corner of Old Mill Site
S17	0900	Soil and Water blank
S18	0815	Soil at base of the 30 drums (new drum site)
S19	0825	Soil from stained area at new drum site
S20	0830	Soil near horizontal drums at west end of new drum site
S21	1010	Soil from field tile at northwest end of new site
S22	0900	Soil blank

Non-responsive

Oct - 5 SAMPLING B. TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID	CONC. (ug/L)	COMPOUND NAME	FRACTION	% Maximum Score Attained Mass Matching Routine: FIT (specify)
10	200	BENZENE AcETIC Acid	B/N	
	200	BUTANOIC Acid	B/N	
14	20	ETHANETHIOL	1/0A	
19	2	(BETA HYDROXY TOLUENE) BHT	B/N	
20	20	BHT	B/N	
21.	2	BHT	B/N	

U. S. ENVIRONMENTAL PROTECTION AGENCY - HWI Sample Management Office

114 North Columbus Street - Alexandria, Virginia 22314

Laboratory Name ROCKY MOUNTAIN ANALYTICAL Case No. SAS305E QC Report No. 182

QC Report No. 182

5012

TASK 1. Units mg/kg

Oct 5. Sample

SAMPLE

EPA Sample No.	RMA Sample No.	Ag	Al	B	Ba	Be	Cr	Co	Cu	Fe	Mn	Ni	V	Zn	NUMBER
ME9730	50,99-01 ab new site stained 5002	2.5	2400	12	22	ND	4.2	9.5	18	680	320	11	ND	44	82 CY14
ME9731	new site stained 5002	ND	8200	13	20		ND	ND	12	1700	71	ND		21	82 CY14
ME9732	new site 5003		5900	ND	ND		5.1		7.2	910	78			2.6	82 CY14
ME9733	field + ab new site 04		7400	ND	38		ND		ND	1900	220			24	82 CY14
ME9734	FIELD Blank 05	↓	ND	ND	ND	↓	ND	↓	ND	ND	ND	↓	↓	ND	82 CY14

TASK 2. Units mg/kg

TASK 3. Units mg/kg

EPA Sample No.	RMA Sample No.	As	Cd	Hg	Pb	Sb	Se	Sn	Tl	CN	NH ₃	S	
ME9730	SD99-01	1.6	2.0	ND	64	ND	ND	ND	ND				82CY14S18
ME9731	02	ND	0.3		18								82CY14S19
ME9732	03		0.2		1.8								82CY14S20
ME9733	04		0.3		1.9							A	82CY14S24
ME9734	05	✓	ND	✓	ND	✓	✓	✓	✓				82CY14S22

<u>Pesticides</u>	<u>PPB</u> <u>ug/l</u>
D aldrin	
D dieldrin	
P chlordane	
P 4,4'-DDT	
P 4,4'-DDE	
D 4,4'-DDD	
D alpha-endosulfan	
D beta-endosulfan	
P endosulfan sulfate	
P endrin	
P endrin aldehyde	
OP heptachlor	
1P heptachlor epoxide	
12P alpha-BHC	
13P beta-BHC	
14P gamma-BHC	
15P delta-BHC	
16P PCB-1242	
17P PCB-1254	
18P PCB-1221	
19P PCB-1232	
10P PCB-1248	
11P PCB-1260	
12P PCB-1016	
13P toxaphene	

Oct. 5 Samples

All Less Than DETECTABLE

SAMPLES # 14, 15, 16 Not Analyzed

Acid Compounds (circle)

21A 2,4,6-trichlorophenol
22A p-chloro-m-cresol
24A 2-chlorophenol
31A 2,4-dichlorophenol
34A 2,4-dimethylphenol
57A 2-nitrophenol
58A 4-nitrophenol
59A 2,4-dinitrophenol
60A 4,6-dinitro-o-cresol
64A pentachlorophenol
65A phenol

Base/Neutral Compounds

1B acenaphthene
5B benzidine
8B 1,2,4-trichlorobenzene
9B hexachlorobenzene
12B hexachloroethane
18B bis(2-chloroethyl) ether
20B 2-chloronaphthalene
25B 1,2-dichlorobenzene
26B 1,3-dichlorobenzene
27B 1,4-dichlorobenzene
28B 3,3'-dichlorobenzidine
35B 2,4-dinitrotoluene
36B 2,6-dinitrotoluene
37B 1,2-diphenylhydrazine
(as azobenzene)
39B fluoranthene
40B 4-chlorophenyl phenyl ether

ALL LESS THAN DETECTED

SAMPLES

14, 15, 16 Not Analyzed

	43	31	200	NA	NA	NA	11	NA = NOT ANALYZED
benzoic acid								
2-methylphenol								
4-methylphenol			670					
2, 4, 5-trichlorophenol								
BASE/NEUTRAL COMPOUNDS								
aniline								
benzylalcohol								
4-chloroaniline								
dibenzofuran								
2-methylnaphthalene								
2-nitroaniline								
3-nitroaniline								
4-nitroaniline								
VOLATILES								
acetone				72	200	94	133	
2-butanone								
carbondisulfide								
2-hexanone								
4-methyl-2-pentanone			20					
styrene								
vinyl acetate								
0-xylene			97					

Volatiles	01	02	03	04	05	06	07	08	09	10	11	12	14	15	16	17	18	19	20	21	22
2V acrolein																					
3V acrylonitrile																					
4V benzene																					
6V carbon tetrachloride																					
7V chlorobenzene																					
10V 1,2-dichloroethane																					
11V 1,1,1-trichloroethane																					
13V 1,1-dichloroethane																					
14V 1,1,2-trichloroethane																					
15V 1,1,2,2-tetrachloroethane																					
16V chloroethane																					
17V bis(chloromethyl) ether																					
19V 2-chloroethylvinyl ether																					
23V chloroform															11	163					
29V 1,1-dichloroethylene																					
30V 1,2-trans-dichloroethylene																					
32V 1,2-dichloropropane																					
33V 1,3-dichloropropylene																					
38V ethylbenzene																	38				
44V methylene chloride																					
45V methyl chloride																					
46V methyl bromide																					
47V bromoform																					
48V dichlorobromomethane																					
49V trichlorofluoromethane																					
50V dichlorodifluoromethane																					
51V chlorodibromomethane																					
85V tetrachloroethylene																				121	
86V toluene																					
87V trichloroethylene																			69		
88V vinyl chloride																			115		

11. CONTAMINATED SOIL PILES - SAMPLES



WADSWORTH TESTING LABORATORIES, INC.

P.O. Box 208 • 1600 Fourth St. S.E. • Canton, Ohio 44701 • (216) 454-5809

CHEMISTS • METALLURGISTS • ENGINEERS

ESTABLISHED 1938

Environmental Pollution
Control Services, Inc.
P.O. Box 5555
Akron, Ohio 44313

DATE

11/10/82

Subject: Leachate testing in accordance with Federal Register Vol 45,
#98, May 19, 1980

Sample Identification: Composite Soil From Drum Area "C" Old Mill Site -
Rock Creek, Ohio 10/19/82

PCB ----- 2 ppm Aro 1260

Arsenic ----- Less than .005 mg/L
Barium ----- .1 mg/L
Cadmium ----- Less than .01 mg/L
Chromium ----- Less than .02 mg/L
Mercury ----- Less than .005 mg/L
Lead ----- Less than .1 mg/L
Selenium ----- Less than .005 mg/L
Silver ----- Less than .01 mg/L

Phenol ----- 2 mg/kg

Solvent Scan:

Methylene Chloride -----	33 ppm
Trichloroethylene -----	65 ppm
Tetrachloroethylene-----	16 ppm
Toluene -----	16 ppm
Ethylbenzene -----	13 ppm
Xylenes -----	18 ppm

Subject: Leachate testing in accordance with Federal Register Vol 45,
#98, May 19, 1980

Sample Identification: Composite Soil Sample from Drum Areas D & E 10/19/82
Old Mill Site - Rock Creek, Ohio

PCB ----- 5 ppm Aro 1260

Arsenic ----- Less than .005 mg/L
Barium ----- .1 mg/L
Cadmium ----- Less than .01 mg/L
Chromium ----- Less than .02 mg/L
Mercury ----- Less than .005 mg/L
Lead ----- Less than .1 mg/L
Selenium ----- Less than .005 mg/L
Silver ----- Less than .01 mg/L

Phenol ----- 4 mg/kg

Solyent Scan:

Dichloroethylene -----	25 ppm
1,1,1-Trichloroethane---	8 ppm
Trichloroethylene -----	120 ppm
Tetrachoroethylene -----	200 ppm
Toluene -----	16 ppm
Ethylbenzene -----	22 ppm
Xylenes -----	50 ppm

12. NOVEMBER 16, 1982 OLD MILL SOIL SAMPLES

EPA PROJECT
ECOLOGY AND ENVIRONMENT, INC.
MEMORANDUM: REGION V

COST CENTER EP151-5

TO: Mr. Robert Bowden

FROM: Technical Assistance Team

VIA: Mr. Scott McCone, TATL

SUBJECT: Sediment/Water Sampling at the Old Mill Site
Rock Creek, Ohio (TDD#5-8211-4)

DATE: November 18, 1982

COMMENTS:

On Tuesday - November 16, 1982, TAT Leader Scott McCone and TAT members Jerry Kelly and Lisa Perenchio traveled to the Old Mill Site in Rock Creek, Ohio. Soil samples were taken at thirty-four locations previously determined by Joe Fredle (See map). Those samples were to be analyzed for: PCB's, organic scan, mercury phenolics, and ICAP metals. The samples from 10 locations were taken to CRL for analysis. (See Chart). The rest of the samples are being held at the EDO for possible future analysis, depending on the results from the first analysis.

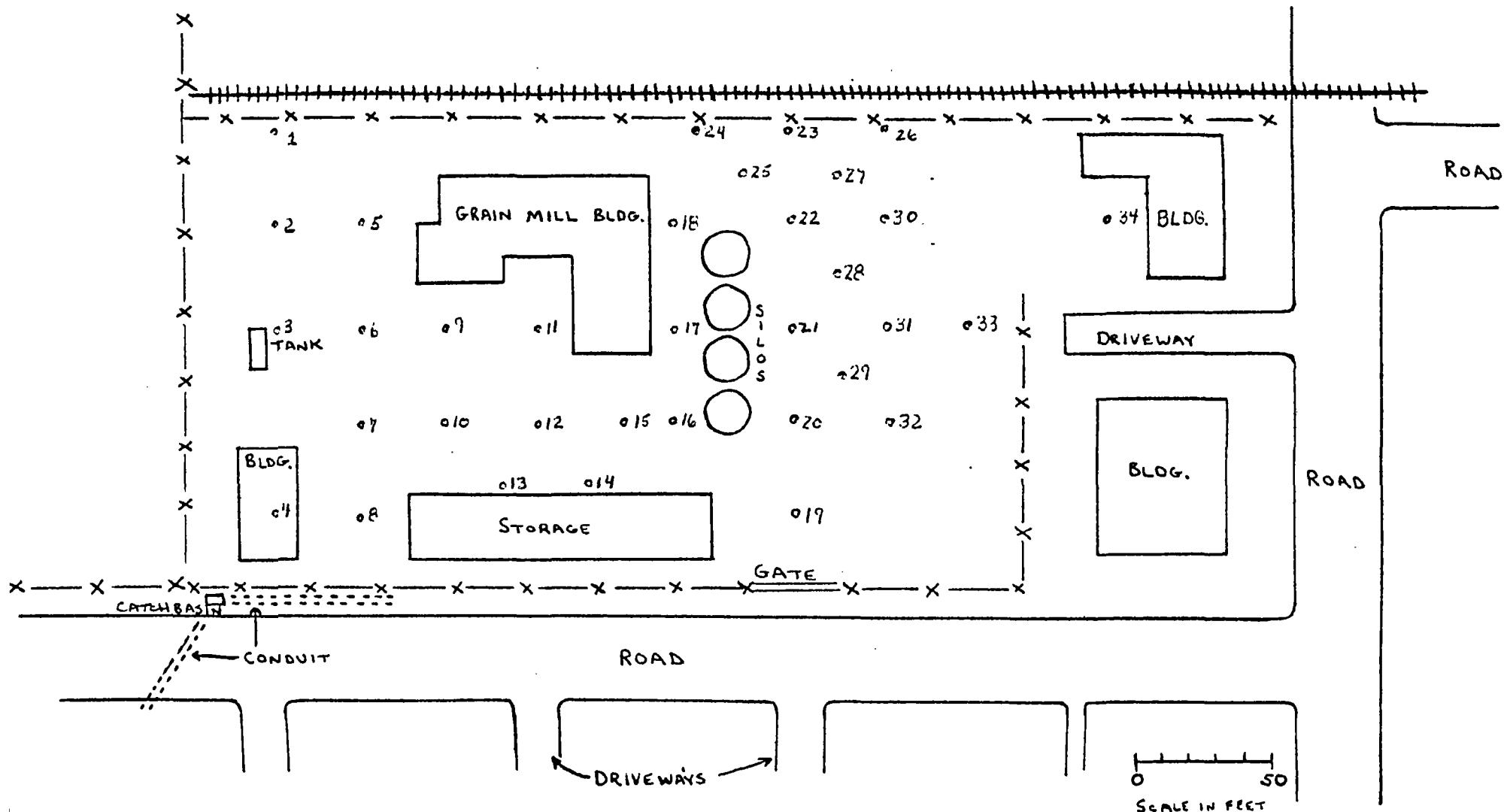
On Wednesday- November 17, 1982 TAT took 15 water samples from wells and from surface waters in Rock Creek (See Chart). These samples were to be analyzed for: PCB's, organic scan, volatile organics, sulfate, chloride, mercury, ICAP metals, sulfides and phenolics.

On Thursday - November 18, 1982, both the soil and the water samples were delivered to CRL in Chicago.



Lisa Perenchio

→ N



Old Mill Site, Rock Creek, Ohio

SOIL SAMPLING LOCATIONS

NOVEMBER 16, 1982

TOD # 5-8211-4

OLD MILL SITE SAMPLING

ROCK CREEK, OHIO

SAMPLE NUMBER	TIME	HNU READING	LOCATION NUMBER (See Map)
82EF02	11/16/82		
S01	1143	1.8	1
S02*	1153	400	2
SQ3	1207	5.5	3
S04	1218	170 at surface 30 8" below surface	4
S05	1223	3.5	5
S06	1231	80	6
S07*	1237	0.0	7
S08	1245	0.0	8
S09	1250	8.0	9
S10	1255	0.0	10
S11	1300	0.0	11
S12*	1307	190	12
S13	1310	2.0	13
S14	1314	0.0	14
S15	1319	90.0	15
S16*	1325	650	16
S17	1328	60.0	17
S18*	1332	200	18
S19	1400	9.0	19
S20	1407	2.0	20

OLD MILL SITE SAMPLING

ROCK CREEK, OHIO

(Continued)

SAMPLE NUMBER	TIME	HNU READING	LOCATION NUMBER (See Map)
S21*	1407	450	21
S22	1416	2.0	22
S23*	1422	100	23
S24	1429	31.0	24
S25	1435	6.0	25
S26	1439	20.0	26
S27	1445	4.0	27
S28*	1450	130	28
S29*	1454	400	29
S30	1500	40.0	30
S31	1503	2.0	31
S32	1505	2.0	32
S33	1509	2.0	33
S34*	1512	550	34
S35*	1600	-	Blank

*These samples were taken to CRL for analysis

MISC DATA: NO VE 5M 80-220 SC/M 18M SP1000

IDFILE FRN: 9999

IDFILE NAME: VOLATILE PRIORITY POLLUTANTS L
MISC DATA: NO VE 5M 80-220 SC/M 18M S

82 EFO2

NAME

VALUES in mg/kg (ppm)

STANDARD	1-CHLORO-2-BROMOPROPANE	S02	S07	S12	S16	S18	S21	S23	S28	S29	S34	R35	S21
1	DICHLOROMETHANE		.110	.042	.69			18	7.77	.047		40.6	EXC
2	1,1-DICHLOROETHYLENE			.047									
3	1,1-DICHLOROETHANE												
4	1,2-DICHLOROETHYLENE				.018								
5	TRICHLOROMETHANE												
6	1,2-DICHLOROETHANE												
7	1,1,1-TRICHLOROETHANE					.222							
8	TETRACHLOROMETHANE												
9	DICHLOROBROMOMETHANE												
10	1,2-DICHLOROPROPANE												
11	1,3-DICHLORO-1-PROPENE (TRANS)	126.7	2.35	14.9	1.92		1220	13	1.56	2.63		5.1	EXC
12	TRICHLOROETHYLENE												
13	DOBROMOCHLOROMETHANE												
14	BENZENE												
15	1,1,2-TRICHLOROETHANE				.139			10			.026		
16	1,3-DICHLORO-1-PROPENE (CIS)												
17	TRIBROMOMETHANE												
18	1,1,2,2-TETRACHLOROETHANE					.071			9.67				
19	TETRACHLOROETHYLENE	35.2			6.86	.405	120	5.38	1.36	6.06			
20	METHYLBENZENE					.027	.715			164	.638	103.2	
21	CHLOROBENZENE												
22	ETHYLBENZENE					.019	.540	1420	76	36.4		42.7	
23	1,3-DIMETHYLBENZENE						1.44	1610	362	933		65.3	
24	1,2- & 1,4-DIMETHYLBENZENE OTHERS (TENTATIVE)					.044	6.46	1865	96.1	740	.074	60.8	
											YES		

PCB

ALL

SAMPLES LESS THAN DETECTABLE

180.0

PHENOL (PPM)	14.0	1.0	2.9	0.8	7.8	1.2	28.	1.0	0.4	5.6		
Hg (PPM)	0.07	0.04	0.04	0.02	0.02	0.03	<0.01	0.02	0.03	0.03	20.01	

NAME OLD MILL

BLER 5

mg/l kg (ppm)

BASE/NEUTRAL

STANDARD	D-10-PHENANTHRENE	502*	507*	512*	516*	518*	521*	523*	528*	529*	531*	R35*
1	BIS(2-CHLOROETHYL)ETHER											
2	1,3-DICHLOROBENZENE											
3	1,4-DICHLOROBENZENE											
4	1,2-DICHLOROBENZENE											
5	BIS(2-CHLOROISOPROPYL)ETHER											
6	HEXACHLOROETHANE											
7	N-NITROSDIISOPROPYL AMINE											
8	NITROBENZENE											
9	ISOPHORONE											
10	BIS(2-CHLOROETHOXY)METHANE											
11	1,2,4-TRICHLOROBENZENE											
12	NAFTHALENE			6.4	-5	120.0	1.7	120			3.6	6.0
13	HEXACHLOROBUTADIENE											
14	HEXACHLOROCYCLOPENTADIENE											
15	2-CHLORONAPHTHALENE											
16	ACENAPHTHYLENE											
17	DIMETHYLPHthalate											
18	2,6-DINITROTOLUENE											
19	ACENAPHTHENE		-9			-7	1200	.3	150	.4		
20	2,4-DINITROTOLUENE											3.9
21	FLUORENE											
22	4-CHLOROPHENYL PHENYL ETHER											
23	DIETHYLPHthalate											
24	1,2-DIPHENYLHYDRAZINE											
25	4-BROMOPHENYLPHENYL ETHER											
26	HEXACHLOROBENZENE											
27	PHENANTHRENE } AND/OR											
28	ANTHRACENE } AND/OR	2.1	18.6		56.0	1500.0	12.0	180	10.0	2.7		
29	DI-N-BUTYLPHthalate											
30	FLUORANTHENE }											
31	PYRENE }	5.4	20.8 25.3	4000	129	5800.0	14.0	250	3.5 2.4 29.7	2.7		
32	BUTYLBENZYLPHthalate											
33	CHRYSENE											
34	BENZO(A)ANTHRACENE											
35	BIS(2-ETHYLHEXYL)PHthalate	5.9	1.4** 10.0	6.6 -4		14.5					22.0	1967.5
36	DI-N-OCTYLPHthalate											
37	BENZO(B &/OR K)FLUORANTHENE											
38	BENZO(A)PYRENE -OTBERS (TENTATIVE)		-9 YES	83.6 YES	83.6 YES	2300.0 YES		63.0 YES				

* CONCENTRATION CALCULATED MANUALLY BY YHF

** PRESENT IN METHOD BLANK AT SIMILAR CONCENTRATION

NAME: OGD MULL 82EF02

ACID

STANDARD D-10-PHENANTHRENE

	502'	507'	512'	516'	518'	521'	523'	528'	529'	534'	R35
1 PHENOL											
2-CHLOROPHENOL											
2-NITROPHENOL											
2,4-DIMETHYLPHENOL											
2,4-DICHLOROPHENOL											
4-CHLORO-3-METHYLPHENOL											
2,4,6-TRICHLOROPHENOL											
2,4-DINITROPHENOL											
4-NITROPHENOL											
2-METHYL-4,6-DINITROPHENOL											
PENTRCHLOROPHENOL											
							180.0				

Add to H-16 and results

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S 12

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> <u>MG/KG</u>
Ethanone, 1-(2-hydrophenyl)-	87
Naphthalene, 1-methyl-	77
Naphthalene, 2,3-dimethyl-	99
Naphthalene, 1,4,6-trimethyl-/isomers	1300
Phenanthrene, 3-methyl-	160
Naphthalene, 1-methyl-7-(1-methylethyl)-/isomers	1200
Phenanthrene, 2,3-dimethyl/isomer	380
Total Hydrocarbons	2100

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S16

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> <u>MG/KG</u>
Naphthalene, 1,4,5-trimethyl-	47
Total Hydrocarbons	3400

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S 18

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> PPM
Naphthalene, 1-methyl (2 isomers)	1000
1,1'Biphenyl	92
Naphthalene, 2-ethyl-	410
Naphthalene, 1,3-dimethyl-(3 isomers)	3400
Dibenzofuran	2300
Naphthalene, 1,4,6-trimethyl (3 isomers)	1260
9-H-Xanthene	610
Dibenzofuran,4-methyl	730
Dibenzothiophene	1060
9-H-Fluorene,9-Methylene-	4100
1H-Indene, 1-phenylmethylen-	530
Anthracene, 1-methyl-	1010
4H-cyclopenta(DEF)phenanthrene	1300
Naphthalene, 2-phenyl-	450
11H-Benzo(B)fluorene	410
Pyrene, methyl-(2 isomers)	700
Total Hydrocarbons	3200

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S 18

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> <u>MG/G</u>
Naphthalene, 1-methyl (2 isomers)	1000
1,1'Biphenyl	37
Naphthalene, 2-ethyl-	410
Naphthalene, 1,3-dimethyl-(3 isomers)	3400
Dibenzofuran	2300
Naphthalene, 1,4,6-trimethyl (3 isomers)	1260
9-H-Xanthene	610
Dibenzofuran,4-methyl	730
Dibenzothiophene	1060
9-H-Fluorene,9-Methylene-	4100
1H-Indene, 1-phenylmethylen-	530
Anthracene, 1-methyl-	1010
4H-cyclopenta(DEF)phenanthrene	1300
Naphthalene, 2-phenyl-	450
11H-Benzo(B)fluorene	410
Pyrene, methyl-(2 isomers)	700
Total Hydrocarbons	3200

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S 21

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> <u>MG/KG</u>
Benzene, 1-ethyl-4-methyl-	200
Benzene, 1-methyl-4-propyl	26
Benzoic Acid, methyl ester	1100
Naphthalene, 1-methyl-	87
Naphthalene, 2-methyl-	71
Naphthalene, 1,7-dimethyl-	73
Naphthalene, 1,8-dimethyl-	49
Naphthalene, 1,4,5-trimethyl-	24
Hydrocarbons (Total)	250

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S23

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> <u>MG/KG</u>
Benzenesulfonic acid, 4-hydroxy-	590
Ethanone, 1-phenyl-	250
Ethanone, 1-(2-Hydroxyphenyl)-	1800
Naphthalene, methyl-(2 isomers)	870
1,1'-biphenyl-	140
Naphthalene, 2-ethyl-	79
Naphthalene, dimethyl-(3 isomers)	430
Total Hydrocarbons	650
Dibenzofuran	370

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S 28

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> <u>MG/KG</u>
Benzene, 1-ethyl-2-methyl-	220
Benzene, 1,2,3-trimethyl-	180
Benzene, 1,2,4-trimethyl-	67
Benzene, 2-Propenyl-	34
Ethanone, 1-phenyl-	62
Benzene, 1,2,3,5-tetramethyl-	140
Benzene, 1-ethyl-2,4,5-trimethyl-	62
Naphthalene, 1-methyl-	49
Naphthalene, 2-methyl-	39
1,2-benzeneddicarboxylic acid, butyl phenylmethyl ester	103
Hydrocarbon	62
Benzene, 4-ethyl-1,2-dimethyl-	210

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER: 82- EF02S29

COMPOUND NAME	ESTIMATED CONCENTRATION MG/KG
Naphthalene, 1,7-dimethyl -	25
Hydrocarbons (Total)	250

ORGANIC SCAN: DATA SET EDO-1929, OLD MILL STUDY - SEDIMENTS
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE: 82-EF02S 34

<u>COMPOUND NAME</u>	<u>ESTIMATED CONCENTRATION</u> <u>NG/KG</u>
Naphthalene, 1,2-dimethyl-	42
Hydrocarbons	510

OTHER VOLATILE COMPOUNDS TENTATIVELY IDENTIFIED

<u>NAME</u>	<u>ESTIMATED CONCENTRATION, M_g/K_g</u>
1-Hexanol	.44
8-Heptadecane, 1-chloro	4.10
Phenol, 4-(1,1-dimethylethyl)-	11.7
Hydro carbons	98.4

82 EF02

\$29

OTHER VOLATILE COMPOUNDS TENTATIVELY IDENTIFIED

<u>NAME</u>	<u>ESTIMATED CONCENTRATION, Mg/kg</u>
Benzene, 1-chloro-3-methyl- (or isomer)	1.45

82EF02

R35

OTHER VOLATILE COMPOUNDS TENTATIVELY IDENTIFIED

<u>NAME</u>	<u>ESTIMATED CONCENTRATION, PPB</u>
Chloroethene	6.03
Tetrahydrofuran	1.08
Styrene	6.04

DATA SET #: ED01929

ELEMENT	EF02602	EF02607	EF02612	EF02618
AO <i>μg/g</i>	0.56	0.58	1.8	< 0.30
B	110.	74.	38.	18.
BA	97.	240.	560.	190.
BE	< 0.10	< 0.10	< 0.10	< 0.10
BN	< 0.2	2.5	1.1	1.1
CO	4.5	6.9	7.7	5.5
CR	64.	60.	32.	30.
CU	940.	1100.	190.	150.
LT	28.	25.	17.	6.3
MN	810.	930.	520.	120.
MO	5.1	4.1	3.7	3.4
NI	55.	65.	25.	14.
PB	350.	310.	180.	320.
SH	97.	36.	12.	10.
SR	280.	210.	110.	38.
V	29.	24.	16.	17.
Y	4.4	10.	9.6	4.2
ZN	620.	860.	300.	320.
CA <i>μg/g</i>	33.	51.	21.	1.8
CD	11.	10.	4.5	0.70
HA	0.30	1.1	0.46	0.13
AL	62.	41.	13.	7.5
FE	35.	38.	27.	37.

DATA SET 4 FR31929

ELEMENT	EF02921	EF02923	EF02924	EF02929
AO	Mg/g <	0.30	0.98 <	0.30 <
B		24.	43.	17.
BA		90.	250.	140.
BE	<	0.10	0.80 <	0.10 <
CD		0.47	17.	3.9 <
CO		3.7	4.1	5.5
CR		20.	65.	17.
CU		160.	1900.	91.
LI		9.	12.	16.
MN		320.	500.	750.
MO		2.7	3.9	2.3
NI		16.	80.	15.
PB		120.	1400.	1300.
SN		11.	150.	7.8 <
SR		89.	99.	66.
V		13.	16.	13.
Y		4.	6.	9.
ZN		160.	1700.	350.
CA	Mg/g	18.	50.	17.
MG		1.9	17.	4.2
NA		0.26	0.26	0.23
AL		9.	43.	9.
FE		30.	13.	15.

DATA SET # ECO1929

ELEMENT	EF02S34	EF02R35
AG	$\mu\text{g/g}$	< 0.30
AL	$\mu\text{g/g}$	< 0.7
B	19.	< 8.0
BA	130.	< 0.50
BE	< 0.10	< 0.10
CD	0.51	< 0.20
CO	6.8	< 0.60
CR	27.	2.8
CU	160.	1.3
FE		11.
LI	19.	< 1.0
MN	700.	< 0.50
MO	3.4	< 1.0
NI	26.	< 1.5
PB	160.	< 7.0
SN	5.4	< 4.0
SR	110.	< 1.0
V	18.	< 0.50
Y	6.7	< 0.50
ZN	210.	< 4.0
CA	mg/g	< 0.05
MG	2.3	< 0.01
NA	0.24	< 0.10
AL	12.	
FE	26.	

13.

NOVEMBER 17, 1982 WATER SAMPLES

EPA PROJECT
ECOLOGY AND ENVIRONMENT, INC.
MEMORANDUM: REGION V

COST CENTER EP151-5

TO: Mr. Robert Bowden
FROM: Technical Assistance Team
VIA: Mr. Scott McCone, TATL

SUBJECT: Sediment/Water Sampling at the Old Mill Site
Rock Creek, Ohio (TDD#5-8211-4)

DATE: November 18, 1982

COMMENTS:

On Tuesday - November 16, 1982, TAT Leader Scott McCone and TAT members Jerry Kelly and Lisa Perenchio traveled to the Old Mill Site in Rock Creek, Ohio. Soil samples were taken at thirty-four locations previously determined by Joe Fredle (See map). Those samples were to be analyzed for: PCB's, organic scan, mercury phenolics, and ICAP metals. The samples from 10 locations were taken to CRL for analysis. (See Chart). The rest of the samples are being held at the EDO for possible future analysis, depending on the results from the first analysis.

On Wednesday- November 17, 1982 TAT took 15 water samples from wells and from surface waters in Rock Creek (See Chart). These samples were to be analyzed for: PCB's, organic scan, volatile organics, sulfate, chloride, mercury, ICAP metals, sulfides and phenolics.

On Thursday - November 18, 1982, both the soil and the water samples were delivered to CRL in Chicago.



Lisa Perenchio

OLD MILL SITE SAMPLING
ROCK CREEK, OHIO

SAMPLE NUMBER	TIME	LOCATION
82EF03	11/17/82	
S01	0908	Bevin's Well
S02	0844	Thompson Well 2789 Jefferson Street
S03	1100	Cone Well 2816 East Water Street
S04	0934	Carson Well 2623 Maple
S05	0927	Highlander Well 2581 Maple
S06	0945	F & D Hall Sump 3924 Mill Street
07	1040	McClusky Pond
S08		2746 Station Street
S09	1052	Gill Well 2733 Station
S10	0858	Pond at north end of new drum site
S11	0838	Pond in back of 2789. Jefferson Street
S12	1000	M & B Hall Sump 3274 Mill Street
S13	1030	Stolder Well 2576 Jefferson
S14	1400	Blank
S15	0916	Bevin's City Water Tap 2732 Jefferson Street
S16	1018	Ditch at southwest corner of Old Mill Site

OLD MILL

NAME: EDO 1929 82EF03901 OLD MILL 11/18/82
 MISC DATA: NO VE SM 80-220 SC/M 18M SP1000

IDFILE FRN: 9996

IDFILE NAME: VOLATILE PRIORITY POLLUTANTS 1
 MISC DATA: NO.VE SM 80-220 SC/M 18M S

CONCENTRATIONS IN PPB

STANDARD	NAME	ug/l														Detection limit	
		Berin Well	Thompson Well	Cone Well	Corson Well	Highlander Well	F&D Hall Sump	F&D Hall Well	McClusky Pond	Gill Well	Pond Northend of House site	Thompson Pond	M&B Hall Sump	Stolder Well	* * Blank	Berin City TAP S15	Ditch sweetener of old mill S16
1	1-CHLORO-2-BROMOPROPANE	S01	S02	S03	S04	S05	S06	S07	S08	S09	S10	S11	S12	S13	S14	31.7	99.9
2	DICHLOROMETHANE															<4.5	
3	1,1-DICHLOROETHYLENE															<15.2	
4	1,1,1-DICHLOROETHANE															<6.4	
5	1,2-DICHLOROETHYLENE															401.9	
6	TRICHLOROMETHANE															<3.9	
7	1,2-DICHLOROETHANE															<12.1	
8	1,1,1-TRICHLOROETHANE															<2.7	
9	TETRACHLOROMETHANE															<11.6	
10	DICHLOROBROMOMETHANE															65.4	
11	1,2-DICHLOROPROPENE															<4.1	
12	1,3-DICHLORO-1-PROPENE (TRANS)															<5.9	
13	TRICHLOROETHYLENE															<3.6	
14	DIBROMOCHLOROMETHANE															421.0	
15	BENZENE															<5.2	
16	1,1,2-TRICHLOROETHANE															<2.6	
17	1,3-DICHLORO-1-PROPENE (CIS)															<8.0	
18	TRIBROMOMETHANE															<10.0	
19	1,1,2,2-TETRACHLOROETHANE															<7.6	
20	TETRACHLOROETHYLENE															<5.3	
21	METHYLBENZENE															12.8	
22	CHLOROBENZENE															<2.1	
23	ETHYLBENZENE															<2.9	
24	1,3-DIMETHYLBENZENE															<1.9	
	1,2- & 1,4-DIMETHYLBENZENE															<3.0	
																<2.7	

* TENTATIVELY IDENTIFIED

Cyclic Hydrocarbons 25.4 ug/l

** TENTATIVELY IDENTIFIED

VINYL CHLORIDE

TETRAHYDROFURAN

CHLOROPROPENE

57,3ML

ug/l

5.7

1.1

.82

.5

11/17/82

	Bavin Well	Thompson Well	Cone Well	Corson Well	Highlander Well	F&D Hall Sump	F&D Hall Well	McClusky Pond	Gill Well	Pond Northwest of Krause site	Thompson Pond	M&B Hall Sump	Stoddard Well	Blank	Bevin City Tap	Ditch SW corner of Old Mill	Detection limit	
TOTAL PCB'S ug/l	501	502	503	504	505	506	507	508	509	S10	S11	S12	S13	S14	S15	S16		
TOTAL AS	<.1	<.1	<.35	<.2	<.1	<.1	<.35	<.25	<.1	<.1	<.1	<.25	<.05	<.05	<.25	<.25	2.0	
TOTAL PB	8.0	12.6	5.2	19.0	<2.0	2.3	3.2	2.1	2.2	6.8	17.0	6.0	2.4	5.8	8.2			
TOTAL SE						2.1	4.6	2.3	2.4			2.4			3.7	2.0		
HG	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.1	1.5	0.1	0.2	0.2		
SULFATE mg/l	59	45	38	249	145	72	43	30	119	116	26	122	17	25	47	192		
CHLORIDE "	61	10	75	78	31	17	11	61	43	169	25	60	3300	25	35	400		
PHENOLICS ug/l	29	7	25	11	7	5	11	6	7	9	9	15	7	7	10	11		
SULFIDE	50	40	30	1560	<10	30	<10	<10	20	10	30	10	20	660	<10	10		
AG															<3.			
AL	119.	137.				297.		166.		164.	2930.	341.			469.	480.		
B	807.	288.	125.	226.	122.	254.	138.	198.	144.	168.	144.	240.	701.	98.	364.	<80.		
BA	54.	78.	112.	101.	51.6	445	37.0	20.9	73.1	46.2	45.2	47.0	11700.	34.9	93.3			
BE																<1.0		
CD																<2.0		
CO																<6.0		
CR			104													<8.0		
CU	17.5	7.8	45.6	76.1	34.5	6.91	13.3	9.65		11.3	13.3	12.3	20.	11.	9.	126.		
FE	613.	2170.	1810.	1930.		363.		199.	10.4	7.5	13.6	41.2		91.1	20.2	<6.0		
LI	11.2			57.7	41.9	21.1		198.	725.	253.	2930.	609.	1940.		911.	<80.0		
MN	22.	205.	338.	329.	161.	7.9		25.1	92.	29.	445.	151.	652.		566.	<5.0		
MO																<10.0		
NI															66.4	<15.0		
PB																<70.0		
SN																<40.0		
SR	304.	103.	160.	429.	285.	221.	211.	107.	273.	574.	98.	312.	11200.	200.	939.	<10.0		
TI																<25.0		
V								5.73								<5.0		
Y																<5.0		
ZN	190.	433.	216.	2130.				144.		61.9		50.7	68.3				<40.0	
CA mg/l	71.0	32.	51.	133.	97.3	63.5	47.6	34.7	83.6	65.9	31.8	86.9	670.	.5	42.	165.		
MG	12.8	5.5	10.1	52.0	37.	21.8	6.5	12.5	28.1	15.0	10.5	23.0	273.	11.9	40.9	<0.1		
NA	22.3	5.0	40.5	53.7	23.3	24.9	12.6	15.6	22.9	66.7	4.7	32.2	854.	21.	163.	<1		

FILE NAME: ACID STD: BATCH; SE-54; LIU GC
SC DATA: 6-30-82

NAME

ALL SAMPLES LESS THAN DETECTABLE

STANDARD D-10-PHENANTHRENE

1	PHENOL
2	2-CHLOROPHENOL
3	2-NITROPHENOL
4	2,4-DIMETHYLPHENOL
5	2,4-DICHLOROPHENOL
6	4-CHLORO-3-METHYLPHENOL
7	2,4,6-TRICHLOROPHENOL
8	2,4-DINITROPHENOL
9	4-NITROPHENOL
10	2-METHYL-4,6-DINITROPHENOL
11	4-EUHTHCHLOROPHENOL

Nov 17 San

NAME

STANDARD 'D-10-PHENANTHRENE

ug/l

ORGANIC SCAN: DATA SET EDO 1929, OLD MILL STUDY
Water Samples
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE 82-EF03S12

COMPOUND	ESTIMATED CONCENTRATION ug/l
Propanoic Acid, 2-methyl, 1-(1,1-Dimethylethyl)-2-methyl-1,3-propanediyl ester	178

SAMPLE 82-EF03S16

COMPOUND	ESTIMATED CONCENTRATION
Naphthalene, 1-methyl-	93
Naphthalene, 1,7-dimethyl-	180
Naphthalene, 1,8-dimethyl-	157
Naphthalene, 1,2-dimethyl-	59
Naphthalene, 1,4,5-trimethyl-	66
Naphthalene, 1,6-7-trimethyl-	91
Naphthalene, 2,3,6-trimethyl-	58
Total Hydrocarbons	1080

14.

AIR MONITORING

EPA PROJECT
ECOLOGY AND ENVIRONMENT, INC.
MEMORANDUM: REGION V

COST CENTER EP151-5

TO: Mr. Joe Fredle
FROM: Technical Assistance Team
VIA: Mr. Scott McCone, TATL
SUBJECT: Air Monitoring at Old Mill Dump Site, Rock Creek, Ohio
TDD#5-8207-16
DATE: September 23, 1982

COMMENTS:

On September 21, 1982, TAT members Sue Ahrendt and Cliff Gottschall conducted air monitoring at the Old Mill Dump site in Rock Creek, Ohio.

Three eight hour air samples were collected using charcoal tubes and MSA and Gilian sampling pumps. Details are shown in Table 1. Two pumps were located on the Old Mill site (see map) and the third was placed on the new drum site approximately ten feet from the pile of thirty drums. There was little or no wind throughout the day except for slight breezes from the south, making location #2 a potential downwind sample. The only activity on site during the sampling was overpacking of drums containing PCB levels greater than 500 ppm. No odors were detected at the perimeter of the site. (Results are listed in Table 2).

The tubes were analyzed by Ecology and Environment in Buffalo, NY under SP5-8209-01A.

An HNU (10.2 ev lamp) and OVA were also used to monitor the air in the drum areas and along the site perimeter. Table 3 lists the HNU and OVA readings at 15 locations, which are located on the map. The probes were placed no farther than two feet from drum openings when the highest levels were recorded. (3-8 ppm in drum area C) No levels above background were detected along the perimeter of the site and in most drum areas. Monitoring with charcoal tubes and the HNU will continue during cleanup operations.

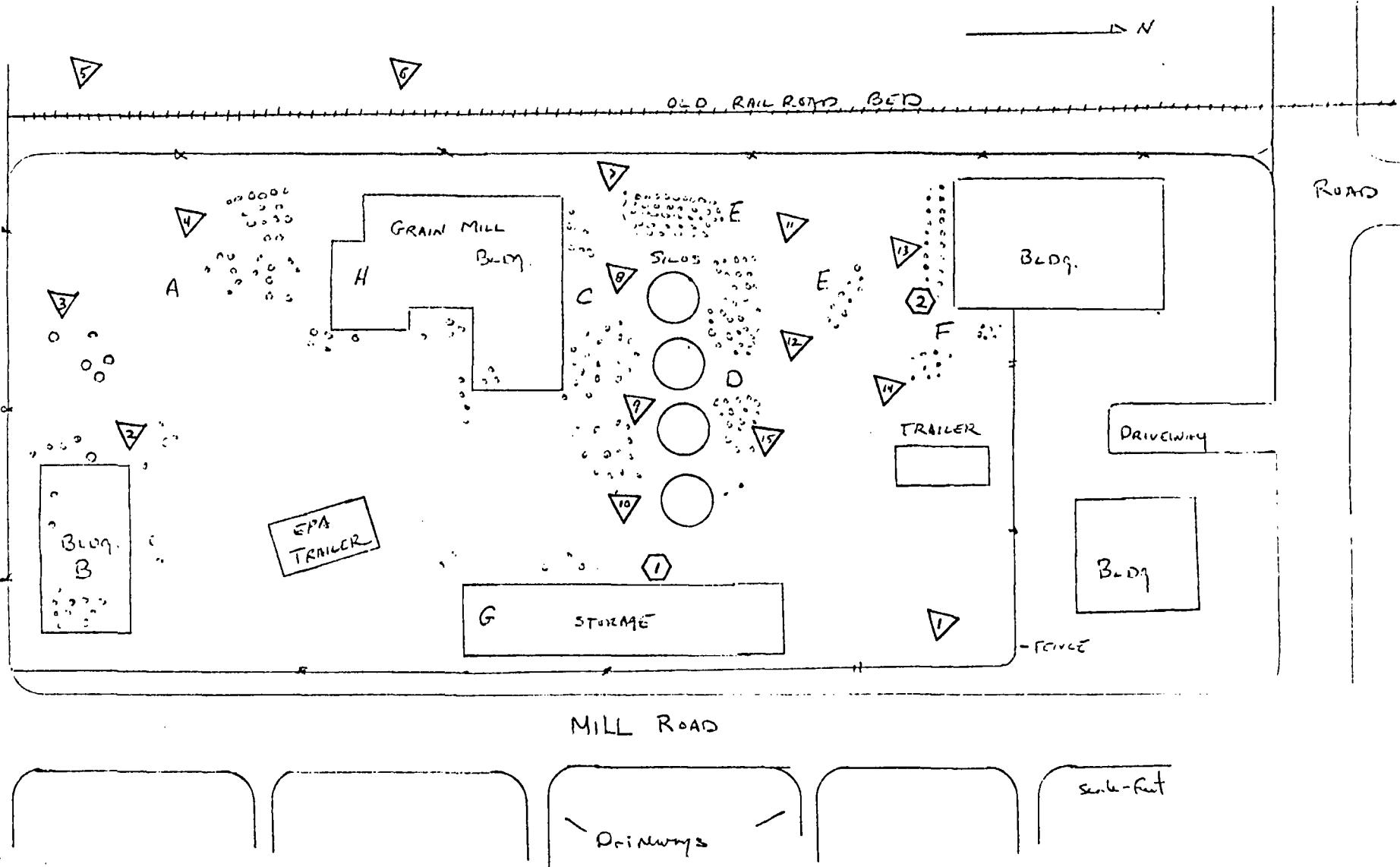
Sue Ahrendt
Sue Ahrendt

TABLE 1
AIR SAMPLING

<u>SAMPLE</u>	<u>START TIME</u>	<u>STOP TIME</u>	<u>FLOW RATE</u>	<u>TOTAL FLOW</u>	<u>LOCATION DESCRIPTION (SEE MAP)</u>
#1	1000	1800	0.2 Liters/ Minute	96 Liters	Next to building at the front of site.
#2	1015	1815	0.075 Liters/ Minute	36 Liters	Northwest corner of site possibly downwind
#3	1035	1820	0.2 Liters/ Minute	93 Liters	New site northwest side of drum pile 10 feet from drums.

RE 1
△ HNU/OVA reading areas

○ AIR SAMPLERS (8 hrs.).



OLD MILL DUMP SITE
ROCK CREEK, OHIO

9/21/82

TABLE 3
OVA and HNU Air Monitoring Results
Old Mill Site, Rock Creek, Ohio
September 21, 1982

<u>Location and Drum Area</u>	<u>OVA in Survey Mode</u> <u>ppm (as Methane)</u>	<u>HNU with 10.2 ev Lamp</u> <u>ppm (as Benzene)</u>
Instrument zero setting	1.0	0.0
1	2.0	1.0
2 (A)	2.0	1.0
3 (A)	2.0	1.5
4 (A)	2.0	1.0
5	1.0	0.0
6	1.0	0.0
7 (C)	3.0	2.0
8 (C)	3.0	2.0
9 (C)	5.0	3.0
10 (C)	8.0	7.0
11 (E)	2.0	1.0
12 (D)	2.0	1.0
13 (D)	1.0	0.0
14 (F)	1.0	0.0
15 (D)	2.5	1.5



ecology and environment, inc.

International Specialists in the Environmental Sciences

TABLE 2

LABORATORY REPORT

FOR

E & E INC., TECHNICAL ASSISTANCE TEAM - REGION V

Job No. EP-600-3

Sample Date: 9/21/82

Sampled By: S. Ahrendt

Date Received: 9/22/82

Delivered By: Federal Express

Sample Type: Charcoal Tubes

	1997	1998	1999
E & E Lab Number 82-			
Sample Identity	#1	#2	#3
Volatile Organics (Volatile priority pollutants, solvents)	ND*	ND	ND

*ND - None detected; detection limit 40 ug/tube. This detection limit represents an average for volatile organic compounds.

Analytical References: NIOSH Manual of Analytical Methods (2nd Edition)
Part 1. NIOSH Monitoring Methods, Volume 1-Apr. 77.

Supervising Analyst

Date October 4, 1982

OLD MILL SITE, ROCK CREEK, OHIO

AIR MONITORING

WEATHER

DATE 10/9/82

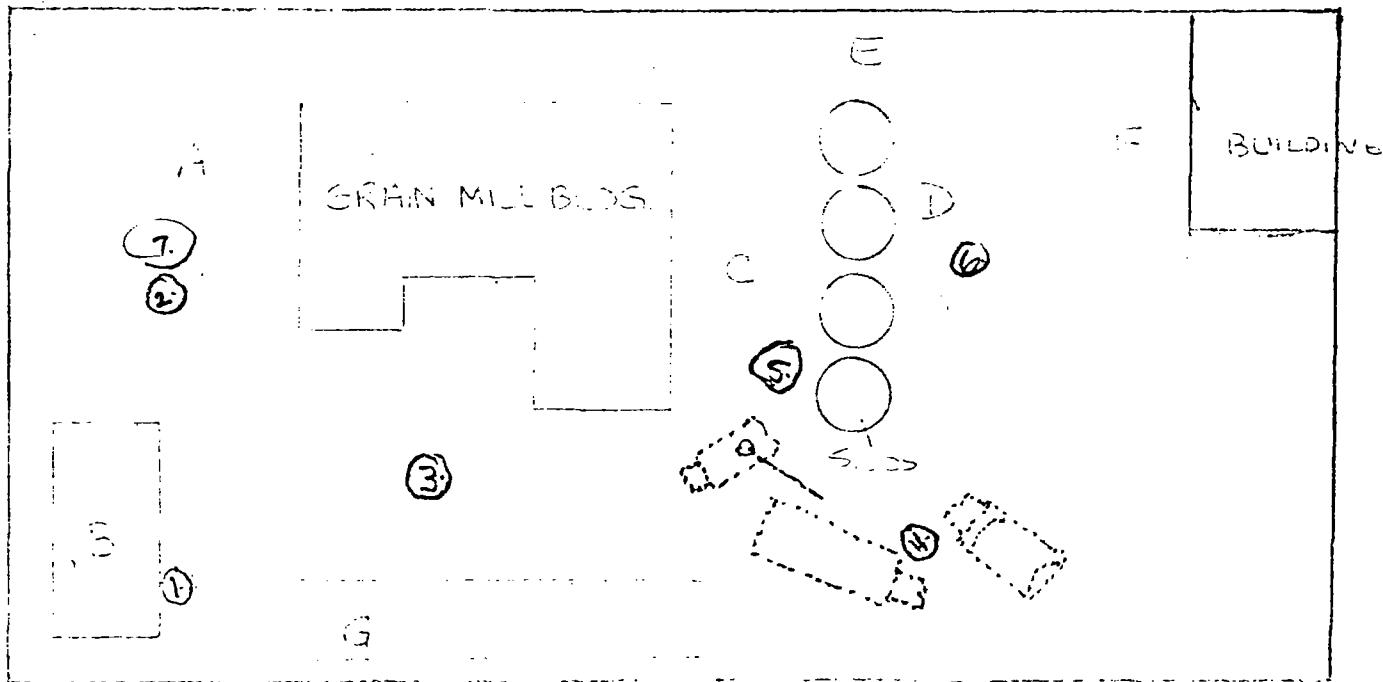
TIME INSTRUMENT

REMARKS

1) HNU	6 ppm (0-20) near Vermiculite truck; truck off, no activity
2) HNU	4.4 ppm (0-20) 10/8 drum loading area; no activity
3) HNU	4.2 ppm, 7 ppm peak (0-20) near 10/8 drum loading area; activity
4) HNU	4.4 ppm (0-20); near open top trailer cab - drum carrier
5) HNU	8 ppm, 14-15 ppm peak (0-20) near drums being loaded-removed
6) HNU	5 ppm (0-20)
7) Draeger - NH ₃	0.0 ppm adjacent to Al plant

SITE SKETCH

OLD RAILROAD BED



MILL ROAD

→ N

AIR SAMPLE RESULTS
ROCK CREEK, OHIO - OLD MILL SITE
OCTOBER 13, 1982

7 Hour sample - 0.075 l/minute (total flow 31.5 liters)

<u>COMPOUND</u>	<u>MICROGRAMS PER TUBE</u>	<u>ppb</u>	<u>TLV (ppm)</u>
Acetone	202	6.4	1,000
Methylethyl Ketone	57.5	1.8	200
Toluene	789	25.0	100 (skin)
Trichloroethylene	65	2.1	100
Xylene	673	21.4	100 (skin)

The lab report from Ecology and Environment in Buffalo will be sent at a later date.

APPENDIX C - BILLING AND COST BREAKDOWN

OLD MILL SITE - ROCK CREEK, OHIO

SURFACE REMOVAL - WASTE DISPOSAL SUMMARY

<u>MATERIAL</u>	<u>QUANTITY</u>	<u>TRANSPORTATION</u>	<u>DISPOSAL</u>	<u>DISPOSAL SITE</u>
PCB Liquids	4000 gal./ 34,140 lb.	\$3,300.00	\$9,217.80	CWM Emelle, AL
Flammable Liquids	9000 gal.	1,678.00	3,150.00	Solvent Resources Dayton, OH
Solidified PCBs	47 drums	963.00	2,940.00	CECOS-CER Williamsburg, OH
Empty PCB Drums	17 drums		586.50	CECOS-CER Cincinnati, OH
Aqueous Liquids	700 gal.	*	455.00	Chem-Clear Cleveland, OH
Drums with Sludges	406 drums	4,434.00	14,210.00	Chem Met Wyandotte, MI
Residual Drums and Scrap	320 drums	1,550.00	3,200.00	Doughtery Sanitary Landfill Geneva, OH
Contaminated Soil	62 tons	2,340.00	3,000.80	Fondessy Oregon, OH

* Transported using Environmental Pollution Control Service (EPCS) tankers;
cost included with heavy equipment.

OLD MILL SITE - ROCK CREEK, OHIOSURFACE REMOVAL COSTS (9/21/82 - 11/12/82)

<u>(INVOICE) DATE</u>	<u>PER DIEM, MILEAGE</u>	<u>HEAVY EQUIPMENT TRUCKS</u>	<u>LABOR</u>	<u>SAFETY EQUIPMENT, MATERIALS</u>	<u>TRANSPORTATION</u>	<u>DISPOSAL</u>	<u>TOTAL</u>
(1267) 9/21	\$ 67.50	\$ 100.00	\$ 675.00	\$ 1,071.00			\$ 1,913.50
(1267) 9/22	67.50	100.00	450.00				617.50
(1282) 10/4	168.75	480.00	712.50	44.70			1,405.95
(1283) 10/5	112.50	360.00	1,162.50	1,622.00			3,257.00
(1284) 10/6	60.00	265.00	1,622.50	65.70			2,013.20
(1285) 10/7	280.84	1,070.00	1,220.00	154.80			2,725.64
(1286) 10/8	288.01	675.00	2,180.00	703.60			3,846.61
(1287) 10/9	348.61	750.00	3,225.00	708.15			5,031.76
(1288) 10/10	97.50	890.00	3,600.00	598.35			5,185.85
(1290) 10/11	233.89	480.00	770.00	64.80			1,548.69
(1291) 10/12	387.73	960.00	2,032.50	1,053.77	\$ 3,300.00		7,734.00
(1292) 10/13	198.43	895.00	1,980.00	1,310.66			4,384.09
(1293) 10/14		835.00	1,845.00	1,463.86			4,143.86

OLD MILL SITE - ROCK CREEK, OHIO

SURFACE REMOVAL COSTS (9/21/82 - 11/12/82)

(CONTINUED)

<u>(INVOICE) DATE</u>	<u>PER DIEM, MILEAGE</u>	<u>HEAVY EQUIPMENT, TRUCKS</u>	<u>LABOR</u>	<u>SAFETY EQUIPMENT, MATERIALS</u>	<u>TRANSPORTATION</u>	<u>DISPOSAL</u>	<u>TOTAL</u>
(1294) 10/15	\$ 210.00	\$ 610.00	\$1,165.00	\$1,127.46	\$	\$	\$ 3,112.46
(1295) 10/16	309.85	575.00	1,160.00	985.05			3,029.90
(1296) 10/					1,550.00	3,200.00	4,750.00
(1297) 10/					4,434.00		4,434.00
(1299) 10/19	180.00	905.00	1,210.00	156.07			2,451.07
(1303) 10/13						455.00	455.00
(1304) 10/28			860.00	1,187.55	963.00		3,010.55
(1317) 11/16						2,940.00	2,940.00
(1317) 11/16				1,150.00			1,150.00
(1312) 10/31						9,217.80	9,217.80
(1324) 11/12		327.25	550.00				877.25
(1327) 10/25						4,828.00	4,828.00

OLD MILL SITE - ROCK CREEK, OHIO

SURFACE REMOVAL COSTS (9/21/82 - 11/12/82)

(CONTINUED)

<u>(INVOICE) DATE</u>	<u>PER DIEM, MILEAGE</u>	<u>HEAVY EQUIPMENT, TRUCKS</u>	<u>LABOR</u>	<u>SAFETY EQUIPMENT, MATERIALS</u>	<u>TRANSPORTATION</u>	<u>DISPOSAL</u>	<u>TOTAL</u>
(1340) PCB						\$ 586.50	\$ 586.50
(1340) Dirt					\$ 2,340.00	3,000.80	5,340.80
(1337) Solids						14,210.00	14,210.00
 TOTAL	 \$3,011.11	 \$10,277.25	 \$26,420.00	 \$13,467.52	 \$12,587.00	 \$ 38,438.10	 \$104,200.98

REF ID: A6539

TO: Joe Fredle
FROM: Technical Assistance Team
VIA: Jack Thorsen
SUBJECT: Cost Analysis of the Old Mill (Rock Creek) Project
(TDD #5-8301-15, PCS #1046)
DATE: February 2, 1983

COMMENTS:

In October of 1982 the emergency action stage of the clean-up at the Old Mill Site in Rock Creek, Ohio was completed. The final costs incurred by the contractors amounted to \$118,448.75.

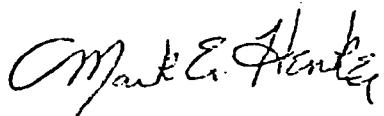
The cost incurred by the EPA personnel amounted to \$14,849.61 for a total of 925 hours devoted to the Old Mill Site. This includes all time spent on this project by EPA personnel for the time periods of the start of the project to June 25, 1982 and October 4, 1982 to the present. During the period of June 26, 1982 to October 3, 1982 the EPA in Region V did not employ a computer system with the capability of tracking all hours spent on a project. Therefore, only OSC Joe Fredle's time can be accounted for during that time lapse of three months.

OSC Joe Fredle traveled to the Old Mill Site 20 times for a round-trip total of 3200 miles at \$.23 per mile which totals to \$736.00. A monthly charge of \$141.00 was also incurred for three months by the EPA for the use of the GSA vehicle which brings the total to \$1159.00.

A town meeting in Rock Creek required the presence of DPO Bob Bowden, EPA Public Affairs representative Marica Carlson and Waste Management representative Greg Kulma. Their expenses came to \$608.46.

The Ecology & Environment Technical Assistance Team incurred expenses of \$4482.36 during their aid to CSC. A total of 538 hours were devoted to the on-going work which amounted to a total of \$5299.30. The entire total incurred by TAT came to \$9781.66. Not all Expenses incurred by E & E personnel were attainable at the time of this report.

The final total, including all expenses, for the emergency action clean-up of the Old Mill Site amounted to \$145,925.83.



Mark E. Henke

OLD MILL HAZARDOUS WASTE SITE COST ANALYSIS

Cost Incurred By Clean-up Contractor.....\$118,448.75

EPA PERSONNEL COSTS:

<u>PERSONNEL - ENFORCEMENT</u>	<u>HOURS</u>	<u>TOTAL</u>
Daniel Papcke	[REDACTED]	\$ 12.26
Judy Clutter	[REDACTED]	16.40
Joe Fredle	[REDACTED]	514.80
Curtis Ross	[REDACTED]	213.50
<u>PERSONNEL - REMOVAL</u>		
Ellen Harrison	[REDACTED]	144.00
Judy Clutter	[REDACTED]	106.60
Carol Kopcek	[REDACTED]	24.60
A. R. Winklhofer	[REDACTED]	1122.00
Philip Gehring	[REDACTED]	92.50
Joseph Good	[REDACTED]	42.00
Arthur Gedeon	[REDACTED]	146.00
Bud Burge	[REDACTED]	77.25
Joe Fredle	[REDACTED]	11434.80
Daniel Papcke	[REDACTED]	183.90
Robert Powden	[REDACTED]	229.50
William Sanders	[REDACTED]	305.00
Denise Young	[REDACTED]	30.00
Kenneth Chiu	[REDACTED]	77.25
Yvonne Flynn	[REDACTED]	77.25
TOTALS	[REDACTED]	\$14,849.61

EPA (GSA) VEHICLE COST

Non-responsive	\$ 736.00
Non-responsive	<u>\$ 423.00</u>
Total	\$ 1159.00

TECHNICAL ASSISTANCE TEAM COSTS

Travel Expenses	\$ 4482.36
Personnel Time	<u>\$ 5299.30</u>
Total	\$ 9781.66

MISCELLANEOUS COSTS

(Rock Creek Public Town Meeting)	\$ 608.46
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TRAVEL EXPENSES

Travel Expenses for Joe Fredle	\$ 1078.35
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FINAL TOTAL of All Expenses incurred during the
Emergency Action at Old Mill Site in Rock Creek, Ohio

\$145,925.83

APPENDIX D - POLREPS

ROCK CREEK
CHICAGO, IL, NOVEMBER 21, 1980
TLY 980145 USCG, CLV

FROM: EES, USEPA, REGION V, CHICAGO, IL
TO: DOSYC, WASHINGTON, DC
USCG NINTH DISTRICT, CLV, OR
US FISH AND WILDLIFE SERVICE
OHIO, EPA, EMERGENCY RESPONSE
USEPA, EDO, EES (J. FREDIE)
ASHTRABULA COUNTY DISASTER SERVICES AGENCY

POLREP 1 ABANDONED SITE, ROCK CREEK, OHIO

CASE NO. V-PD-304 JF

POLLUTION:

1. AN OLD FEED MILL SITE IN ROCK CREEK HAS AN ESTIMATED 1,000 DRUMS OF CHEMICALS STORED ON-SITE.
2. SOME OF THE DRUMS HAVE LEAKED WITH PCB, PHENOL, MERCURY, ARSENIC AND CHROMIUM BEING DETECTED IN ON-SITE SPILLS.
3. MERCURY, ARSENIC AND CHROMIUM HAVE BEEN FOUND IN WATER RUNNING FROM THE SITE. THIS WATER FLOWS TO ROCK CREEK WHICH FLOWS TO LAKE ERIE VIA THE GRAND RIVER.
4. PAST OWNERS OF THE SITE ARE EITHER DEAD OR BANKRUPT.

ACTION:

1. PRT HELD ON 11-17-80

PLANS:

1. EXTENT OF CONTAMINATION STUDY NEEDED TO DETERMINE REMEDIAL ACTIONS NECESSARY TO ELIMINATE DISCHARGE AND THREAT OF DISCHARGE. THIS STUDY WILL BE SIMILAR TO THE ONE UNDERTAKEN AT SUMMIT NATIONAL LIQUID SERVICES, DEERFIELD, OHIO

RECOMMENDATION:

1. OSC IS REQUESTING \$10,000 FROM THE 311K FUND TO ACCOMPLISH ABOVE MENTIONED STUDY.

CASE PENDS

JOSEPH J. FREDIE, OSC, USEPA, REGION V, EES

WFOCIE WLF

WESTLAKE, OH, FEBRUARY 3, 1981

JOSEPH FREDE

FROM: EDO, USEPA, REGION V, WESTLAKE, OH

TO: DCSEC, WASHINGTON, D.C.
USCG NINTH DISTRICT, CLEVELAND, OHIO
OHIO, EPA, EMERGENCY RESPONSE
USEPA, CHIEF, SES

POLREP 2 ABANDONED SITE, ROCK CREEK, OHIO

PROJECT NO. 210012

CASE NO. V-81-304 JF

POLLUTION:

1. JANUARY 2-3, 1981; K-V ASSOCIATES ON SCENE EVALUATING GROUNDWATER. AT THAT TIME AN ORGANIC MATERIAL WHICH SEEMED TO BE SIMILAR TO NAPHTHALENE WAS OBSERVED FLOWING FROM A CULVERT THAT DRAINS PART OF THE SITE.
2. JANUARY 8; OSC INSPECTED THE SITE. MATERIAL SEEMED TO HAVE CEASED FLOWING FROM THE CULVERT. POCKETS OF THE MATERIAL WERE FOUND IN THE DITCH WHICH LEADS TO ROCK CREEK. OSC USED ABSORBENTS TO CONTAIN THE MATERIAL FOUND IN THE DITCH.
3. PRELIMINARY INFORMATION FROM K-V ASSOCIATES INDICATE THAT CONTAMINATED GROUNDWATER IS LEAVING THE SITE AND ENTERING THE DITCH WHICH FLOWS TO ROCK CREEK.
4. IT IS THOUGHT THAT SOMETIME BEFORE JANUARY 2 ONE OR MORE DRUMS ON THE SITE LEAKED (PROBABLY ON THE SOUTH EAST PORTION OF THE SITE). THIS IS WHAT WAS THOUGHT TO BE THE SOURCE OF THE MATERIAL IN THE CULVERT.
5. DUE TO ABOVE INFORMATION THE OSC CONSIDERS THE SITE AN EMINENT HAZARD THAT IS 311 ACTIONABLE.

PLANS:

1. SAMPLE EACH DRUM WHICH CONTAINS LIQUID AT THE SITE. COMPOSITE SAMPLES USING PHYSICAL CHARACTERISTICS AND HAVE THESE SAMPLES ANALYZED.
2. REMOVE ALL LIQUID MATERIAL FROM THE SITE WHICH ARE FOUND TO CONTAIN ANY 311 ACTIONABLE COMPOUNDS.

RECOMMENDATIONS:

1. OSC REQUESTS AN ADDITIONAL \$45,000 TO INITIATE PLAN 1 MENTIONED ABOVE.

CASE PENDS

JOSEPH FREDE, OSC

SEPTEMBER 29, 1981, WESTLAKE, OHIO

TO: USEPA HEADQUARTERS
OHIO EPA EMERGENCY RESPONSE
U.S. EPA REGION V - GREG VANDERLAAN

FROM: JOSEPH FREDLE, OSC

POLREP #3 CASE NUMBER: V-81-304 JF
SUBJECT: OLD MILL SITE, ROCK CREEK

A. CURRENT STATUS

1. APPROXIMATELY 1000 DRUMS OF CHEMICALS ARE ON THIS SITE. DRUMS ARE IN A VERY DETERIORATED CONDITION.
2. SITE IS LOCATED 15 FEET FROM COMBUSTION ENGINEERING INC. WHICH EMPLOYS OVER 30 PEOPLE, 30 FEET FROM A RESIDENTIAL AREA AND 50 FEET FROM A GRAIN PACKAGING PLANT.
3. LEAKING CHEMICALS HAVE PREVIOUSLY BEEN TRACED TO CONTAMINATED GROUNDWATER IN THE AREA. THIS CONTAMINATION MIGRATES TO NEARBY SURFACE DRAINAGE. A SHEEN FROM THE SITE IS RECURRING.
4. A HIGH FIRE HAZARD EXISTS AT SITE DUE TO THE FLAMMABLE LIQUIDS AND OLD DELAPIDATED WOODEN BUILDINGS ON THE SITE. ANY FIRE WOULD BE HARD FOR THE LOCAL VOLUNTEER FIRE DEPARTMENT TO CONTAIN. HIGH POSSIBILITY OF CATAPULTING DRUMS COULD SPREAD FIRE INTO A DISASTROUS SITUATION.
5. USING WATER TO FIGHT OR CONTAIN A FIRE WOULD BE DIFFICULT DUE TO THE ALUMINUM DROSS STORED AT THE COMBUSTION ENGINEERING FACILITY NEXT DOOR. THE DROSS EMITS AMMONIA FUMES WHEN WATER HITS IT.
6. RESPONSIBLE PARTIES INCLUDE: JACK WEBB, THE SITE OPERATOR; HYDROSOIL, THE BANKRUPT COMPANY HE WORKED FOR; THE HENFIELD ESTATE WHICH IS IN CHAPTER II BANKRUPTCY (PROPERTY OWNER); RAPCO, INC., WHO BOUGHT HYDROSOIL'S EQUIPMENT AND MISCELLANEOUS CHEMICALS AT A BANKRUPTCY SALE; HUGHSON CHEMICAL, ONE OF THE GENERATORS OF THE WASTE FROM THE SITE; AARDVARK TRUCKING, HUGHSON'S TRANSPORTER; ROCKWELL PLASTICS, ANOTHER GENERATOR; AND ASHTABULA COUNTY SEPTIC WASTE COMPANY, ROCKWELL'S TRANSPORTER. 106 DEMAND LETTERS WILL BE SENT TO MOST OR ALL THE ABOVE PARTIES.
7. MANY OF THE DRUMS ON THE SITE ARE IN SUCH POOR CONDITION THAT THEY WILL NOT WITHSTAND ANOTHER FREEZE/THAW CYCLE WITHOUT LEAKING OUT THEIR CONTENTS.

B. RECOMMENDATIONS

1. WAYNE NICHOLS, DIRECTOR OF THE OHIO EPA, REQUESTS THAT FEDERAL ACTION BE TAKEN SINCE OHIO HAS NO FUNDS TO DEAL WITH THE PROBLEM.
2. THE OSC REQUESTS THAT \$50,000 OF EMERGENCY REMOVAL SUPERFUNDS BE ALLOCATED TO CLEAN UP THE MOST FLAMMABLE AND DETERIORATED DRUMS AT THE SITE. IT IS ESTIMATED THAT THIS WILL BE ABOUT 50% OF THE MATERIAL AT THE SITE.
3. CLEAN UP WOULD CONSIST OF SAMPLING AND ANALYSIS OF DRUMMED MATERIAL FOLLOWED BY CATEGORIZATION AND DISPOSAL OF THE MATERIAL. THIS ACTION COULD BE STARTED WITHIN A WEEK OF FUNDING APPROVAL AND LEGAL CLEARANCE.

CASE PENDS.

EPA SPILLS WSH

WPCCLE WLKE
OCTOBER 27, 1981

FROM: JOSEPH FREDLE, OSC, USEPA, REGION V, WESTLAKE, OHIO

TO: U.S. EPA, HEADQUARTERS, EMERGENCY RESPONSE

POLREP #4 CASE NO.: V-81-304-JF

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

1. DEMAND LETTERS TO SITE OWNERS/OPERATORS ARE AT HEADQUARTERS FOR SIGNATURES. THIS IS THE ONLY THING HOLDING UP THE CLEANUP AT THIS TIME.
2. MEETING BETWEEN GENERATORS, STATE AND FEDERAL REPRESENTATIVES WAS HELD ON OCTOBER 22, 1981, SITE CLEANUP COORDINATION WAS DISCUSSED.
3. MOBILE LAB FROM THE ERT WILL BE USED TO DO COMPATABILITY TESTING, PROBABLY THE WEEK OF NOVEMBER 2 OR NOVEMBER 9.
4. STATE WILL ASSIST IN SELECTION OF DISPOSAL/RECYCLE SITES FOR MATERIAL.

JOSEPH FREDLE, OSC, USEPA, REGION V, EDO, WESTLAKE, OHIO

WPCCLE WLKE
810-427-9255

CC: HORST WITSCHONKE, SUPERFUND, REGION V
DEBBIE BERG, OEPa, NEDo
KEN SCHULTZ, OEPa, EMERGENCY RESPONSE

EPA SPILLS WSH

EPA SPILLS WSH

WPCCLE WLKE
NOVEMBER 4, 1981, WESTLAKE, OHIO

FROM: JOSEPH FREDLE, OSC, A&HMD, USEPA, REGION V, WESTLAKE, OHIO

TO: U.S. EPA, HEADQUARTERS, EMERGENCY RESPONSE
U.S. EPA, REGION V, SUPERFUND

POLREP #5

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION

1. NOVEMBER 3, 1981 DEMAND LETTERS SIGNED AND SENT BY SULLIVAN FROM HEADQUARTERS.

PLANS

1. IF NO RESPONSE ON DEMAND LETTERS BY C.O.B. NOVEMBER 6, 1981 THEN CLEANUP WILL START ON NOVEMBER 9, 1981.

2. OSC WILL HIRE ENVIRONMENTAL POLLUTION CONTROL SERVICES (EPCS) TO SAMPLE DRUMS. TAT WILL BE USED ON SAMPLING TEAM TO KEEP PAPERWORK.

3. MOBILE LAB FROM ERT WILL BE USED FOR COMPATABILITY TESTING.

4. STATE WILL ASSIST IN THE SELECTION OF DISPOSAL OR RECYCLING SITES FOR THE MATERIAL.

5. HUGHSON AND ROCKWELL WILL SUPPLY A PERSON TO HELP IDENTIFY THEIR DRUMS.

JOSEPH FREDLE, OSC, A&HMD, USEPA, REGION V, WESTLAKE, OHIO, 5SED0

WPCCLE WLKE
810-427-9255

CC: DEBBIE BERG, OEPA, NEDO
EILEEN BLOOM, SEWHME

EPA SPILLS WSH

EPA SPILLS WSH

WPCCLE WLKE

DECEMBER 8, 1981, WESTLAKE, OHIO

FROM: JOSEPH FREDLE, OSC, A&HMD, USEPA, REGION V, WESTLAKE, OHIO

TO: U.S. EPA, HEADQUARTERS, EMERGENCY RESPONSE
U.S. EPA, REGION V, SUPERFUND

POLREP #6

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION

1. NOVEMBER 9, 1981, CONTRACT FOR \$25,000 AWARDED TO EPCS FOR SAMPLING AND POSSIBLE REMOVAL OF MATERIAL AT SITE.
2. NOVEMBER 9, 1981, SAMPLING BEGAN, ERT MOBILE LAB ARRIVED, COMPATABILITY TESTING STARTED.
3. NOVEMBER 11, 1981, HUGHSON CHEMICAL ARRIVED TO REMOVE THEIR DRUMS FROM SITE.
4. NOVEMBER 13, 1981, SAMPLING COMPLETED, 926 DRUMS SAMPLED BY EPCS. COMPATABILITY TESTING CONTINUING.
5. NOVEMBER 14, 1981, HUGHSON COMPLETED MOVING OFF 311 FULL DRUMS AND 22 EMPTIES.
6. NOVEMBER 17, 1981, PREMIX REMOVED 45 DRUMS OF MOSTLY SOLID MATERIAL FROM SITE.
7. NOVEMBER 24, 1981, COMPATABILITY TESTING COMPLETED BY TAT.
8. DECEMBER 3, 1981, TOOK AQUEOUS SAMPLES TO CHEM CLEAR IN CLEVELAND FOR TREATABILITY EVALUATION.

PLANS

1. COMPOSITE FLAMABLE HALOGENATED, NON-FLAMABLE HALOGENATED AND FLAMABLE NON-HALOGENATED MATERIALS AND TAKE THEM TO HUKILL CHEMICAL FOR TREATABILITY ANALYSIS.
2. SEND SAMPLE OF FLAMABLE NON-HALOGENATED MATERIAL TO CHEM CLEAR FOR DISPOSAL QUOTE.

JOSEPH FREDLE, OSC, A&HMD, USEPA, REGION V, WESTLAKE, OHIO, 55EDO

WPCCLE WLKE

810-427-9255

CC: DEBBIE BERG, OEPAP, NEDO
EILEEN BLOOM, SEWHME

EPA SPILLS WSH

WPCCHI

WPCCLE WLKE
JANUARY 19, 1982, WESTLAKE, OHIO

FROM: JOSEPH FREDLE, OSC, A&HMD, USEPA, REGION V, WESTLAKE, OHIO
TO: U.S. EPA, HEADQUARTERS, EMERGENCY RESPONSE
U.S. EPA, REGION V, SUPERFUND

POLREP #7
SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION

1. 47 DRUMS OF AQUEOUS WASTE CAN BE HANDLED BY CHEM CLEAR. THESE DRUMS ARE PRESENTLY FROZEN AND CAN'T BE MOVED OFF SITE TILL SPRING.
2. ANY NON HAZARDOUS OILS CAN BE HANDLED BY RESEARCH OIL IN CLEVELAND.
3. THE FLAMABLE, NON HALOGENATED LIQUIDS COULD BE HANDLED BY EITHER CHEM CLEAR, HUKILL OR MSD IN CINCINNATI.
4. DISPOSAL OF CHLORINATED MATERIALS IS PRESENTLY A PROBLEM, HUKILL OR MSD MAY BE ABLE TO TAKE THEM AND BLEND THE MATERIAL. WE MAY NEED TO USE THE FLAMABLE NON HALOGENATED MATERIAL AS A BARGAINING TOOL TO HELP DISPOSE OF THE CLORINATED MATERIAL.
5. OTHER GENERATORS OF SOME OF THE WASTE MATERIAL ARE CONSIDERING REMOVAL OF THEIR DRUMS THIS SPRING, THEY ARE MFG, STACKPOLE CARBON AND RAPCO.

PLANS

1. SITE IS PRESENTLY COVERED WITH 2 TO 3 FEET OF SNOW AND ICE. MUCH OF THE MATERIAL IS FROZEN OR TO VISCOUS TO PUMP. FURTHER SITE REMOVAL WORK WILL HAVE TO WAIT UNTIL EARLY SPRING WHEN DISPOSAL OPTIONS WILL BE COMPLETELY DEFINED AND THE SITE CONDITIONS HAVE IMPROVED.

JOSEPH FREDLE, OSC, A&HMD, USEPA, REGION V, WESTLAKE, OHIO, 55ED0

WPCCLE WLKE
810-427-9255

CC: DEBBIE BERG, OEPA, NEDO
EILEEN BLOOM, SEWHME

WPCCHI

EPA SPILLS WSH

WPCCLE WLKE

JUNE 30, 1982, WESTLAKE, OHIO

TO: USEPA, HQ, EMERGENCY RESPONSE, TWX 710-822-9269 EPA SPILLS WSH
USEPA, SUPERFUND, REGION V, TWX 910-221-1062 USEPARRB CGO
USEPA, REGION V, EDO, GROSSE ILE, MI, TWX 810-231-7184 EPA GRI
USEPA, REGION V, ESD, SSRS, TWX 910-221-5191 WPCLMB

FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO

POLREP: 8

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

1. STACKPOLE CARBON HAS ENTERED INTO SERIOUS NEGOTIATIONS WITH OUR ATTORNEYS FOR REMOVAL OF THEIR DRUM MATERIALS ON THE SITE. AT THIS TIME THEY HAVE STAGED APPROXIMATELY 130 DRUMS OF MATERIAL THAT HAVE BEEN IDENTIFIED AS THEIRS. THEY ARE WAITING FOR A SIGNED AGREEMENT TO REMOVE THIS MATERIAL.

2. ALL LIQUIDS ON SITE HAVE BEEN FOUND TO BE COMPATIBLE EXCEPT FOR ONE DRUM OF ACID. A COMPOSITE SAMPLE IS BEING ANALYZED FOR DISPOSAL PARAMETERS AT THIS TIME. ANALYTICAL RESULTS ARE DUE ON JULY 7TH.

3. OSC IS PRESENTLY CONSIDERING USING ROLLINS IN NEW JERSEY FOR INCINERATION OF THESE LIQUIDS. AFTER ANALYTICAL RESULTS HAVE BEEN RECEIVED AND APPROVED BY ROLLINS, ARRANGEMENTS FOR SHIPPING THE MATERIAL THERE WILL BE MADE.

4. THE OSC AND THE CLEAN UP CONTRACTOR, ENVIRONMENTAL POLLUTION CONTROL SERVICES (EPCS), HAVE TENATIVELY SCHEDULED REMOVAL OF MATERIAL FROM DRUMS TO OCCUR ON THE WEEK OF JULY 19TH. THIS TIME TABLE IS DEPENDENT UPON THE ANALYTICAL RESULTS GOING SMOOTHLY.

5. THROUGH THIS POLREP THE OSC WOULD LIKE TO REQUEST THAT AN ADDITIONAL \$24,000 BE COMMITTED TO CONTRACT NUMBER 68-95-0011. THIS INCREASE IN CONTRACT AMOUNT IS DUE TO THE EXPANDED ACTIVITIES OF THIS CONTRACTOR DURING THIS CLEAN UP. CONTRACTOR WILL BE PAYING FOR DISPOSAL AND BILLING US FOR THAT COST.

6. OSC ESTIMATES THAT ADDITIONAL MONIES WILL BE NEEDED TO COMPLETELY REMOVE ALL DRUMS AND SOLID MATERIALS, SLUDGES, ETC. FOR THIS SITE. A FIRM ESTIMATE OF HOW MUCH WILL BE NEEDED IS NOT AVAILABLE AT THIS TIME.

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO

WPCCLE WLKE

810-427-9255

CC: DEBBIE BERG, OHIO EPA, TWINSBURG
EILEEN BLOOM, USEPA, ENFORCEMENT COUNSEL, SC
ELISA SPIEZMAN, SMSA

EPA SPILLS WSH

EPA SPILLS WSH

WPCCLE WLKE

JULY 20, 1982, WESTLAKE, OHIO

TO: USEPA, HQ, EMERGENCY RESPONSE, TWX 710-822-9269 EPA SPILLS WSH
USEPA, SUPERFUND, REGION V, TWX 910-221-1062 USEPARRB CGO
USEPA, REGION V, EDO, GROSSE ILE, MI, TWX 810-231-7184 EPA GRI
USEPA, REGION V, ESD, SRS, TWX 910-221-5191 WPCLMB

FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO

POLREP: 9

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

1. ALTHOUGH NO AGREEMENT HAS BEEN SIGNED BETWEEN STACKPOLE CARBON AND THE U.S. EPA, STACKPOLE HAS DECIDED TO PROCEED WITH THE REMOVAL OF THEIR DRUMS. THIS REMOVAL BEGAN ON JULY 19, 1982 AND IS SCHEDULED FOR COMPLETION ON JULY 22, 1982.

2. A DEMAND LETTER TO ASHTABULA COUNTY SEPTIC AND WASTE COMPANY WAS SENT ON JULY 16, 1982. THEY ARE TO RESPOND BY JULY 21, 1982 IF THEY WISH TO ACCEPT CLEAN UP RESPONSIBILITIES. THIS COMPANY HAS BEEN DETERMINED TO BE THE MAJOR HAULER OF DRUMS TO THIS SITE.

3. ANALYTICAL RESULTS ARE IN ON THE COMPOSITE SAMPLE. THEY SHOW THAT THE MATERIAL IS 72% XYLEEN BUT THERE IS ALSO 625 PPM PCB'S IN THE SAMPLE.

4. THE FINDING OF PCB'S HAS CHANGED THE COST PROJECTIONS OF THIS CLEANUP DRASTICALLY. THE NEW COSTS ARE:

LIQUID REMOVAL ESTIMATE

ON-SITE COSTS	\$20,000
DISPOSAL OF 22,000 GAL.	70,000

	\$90,000 TOTAL

SOLID REMOVAL ESTIMATE

DRUMS	\$155,000
CONTAMINATED SOIL	150,000

	\$305,000 TOTAL

5. OSC REQUESTS AN ADDITIONAL \$55,000 BE ADDED TO THE IMMEDIATE REMOVAL ACTION FOR REMOVING LIQUIDS AND THAT THE SOLID REMOVAL ASPECTS BE HANDLED BY COMPETITIVE BIDDING. THIS ADDITION WOULD BRING THE TOTAL TO \$90,000 FOR LIQUID REMOVAL AT THE SITE.

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO

WPCCLE WLKE

810-427-9255

CC: DEBBIE BERG, OHIO EPA, TWINSBURG
EILEEN BLOOM, USEPA, SC
XELISA SPIEZMAN, SMSA

EPA SPILLS WSH

USEPA, REGION V, ESD, SRS, TWX 910-221-5191-WPCLM
USEPA, ERT, EDISON, NJ, VIA REGION VI, TWX 710-998-0598-EPA EDI EDIN

FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO

POLREP: TO

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

PAST ACTION

SEPTEMBER 29, 1981 - OSC REQUESTS IMMEDIATE REMOVAL FUNDS OF \$50,000 DUE TO FIRE HAZARD AND DRUM LEAKAGE AT THIS SITE. THE MONEY WAS TO BE USED TO REMOVE FLAMMABLE LIQUIDS FROM THE SITE. THIS WAS AN OLD 311 SITE THAT LOST ITS FUNDING IN FEBRUARY 1981 ALONG WITH ALL OTHER ONGOING 311 SITES AT THAT TIME.

NOVEMBER 6, 1981 - AFTER NEARLY SIX WEEKS OF WORKING ON DEMAND LETTERS TO POTENTIAL RESPONSIBLE PARTIES THE FINAL APPROVAL FOR IMMEDIATE REMOVAL ACTION WAS GIVEN.

NOVEMBER 9-12, 1981 - DRUM SAMPLING AT SITE BY CONTRACTOR, COMPATIBILITY TESTING STARTED BY ERT AND TAT. HUGHSON CHEMICAL REMOVED THEIR DRUMS FROM THE SITE (311 FULL, 22 EMPTY).

NOVEMBER 17, 1981 - PREMIX REMOVED THEIR 45 DRUMS FROM THE SITE.

NOVEMBER 25, 1981 - COMPATIBILITY TESTING FINISHED BY TAT. OSC BEGAN SEARCH FOR DISPOSAL SITES.

WINTER '81-'82 - DRUMS FROZEN ON SITE, REMOVAL IMPOSSIBLE. HUKILL AND OTHER RECLAMATION SITES NOT INTERESTED.

SPRING '82 - SEARCH CONTINUES FOR DISPOSAL SITES, MSD IN CINCINNATI SHUT DOWN.

JUNE '82 - HAD ANALYSIS STARTED ON A COMPOSITE OF ALL DRUMS LEFT ON SITE.

JULY 19, 1982 - RESULTS OF ANALYSES ON COMPOSITE SAMPLE SHOWS 72% XYLENE AND 625 PPM PCB.

JULY 19-22, 1982 - STACKPOLE CORPORATION REMOVES APPROX. 130 DRUMS FROM SITE.

JULY 20, 1982 - OSC REQUESTS ANOTHER \$55,000 BE AUTHORIZED TO REMOVE LIQUIDS FROM THE SITE AS A CONTINUATION OF IMMEDIATE REMOVAL ACTION.

JULY 27, 1982 - OSC NOTIFIED, THROUGH ROBERT BOWDEN, THAT ERD HAS REJECTED OSC'S REQUEST FOR ADDITIONAL IMMEDIATE REMOVAL FUNDS.

THE TOTAL SUPERFUND MONEY SPENT ON THIS SITE SO FAR IS APPROX. \$15,000 FOR THE SAMPLING AND ANALYSES DONE THUS FAR.

PRESENT SITE STATUS

THERE ARE NOW 750 TO 800 DRUMS ON THE SITE. MOST OF THESE DRUMS HAVE SOMEWHERE BETWEEN 5 AND 55 GALLONS OF LIQUID IN THEM. THERE IS APPROX. 21,000 GALLONS OF LIQUID LEFT ON SITE, 85% OF WHICH IS FLAMMABLE. A COMPOSITE ANALYSIS SHOWS:

GC/MS SCAN: %

WATER 5.0

XYLENE 72.1

1,1,1-TRICHLOROETHANE 7.8

TETRACHLOROETHYLENE 4.6

GC/MS SCAN:

3

WATER	5.0
XYLENE	72.1
1,1,1-TRICHLOROETHANE	7.8
TETRACHLOROETHYLENE	4.6
NAPHTHALENE	1.4
2-METHYL NAPHTHALENE	1.2
1,2-DIHYDRO ACENAPHTHYLENE	1.6
PCB BENZOFURAN	1.1
ANTHRACENE	0.82
PHENANTHRENE	0.75
FLUORANTHENE	1.04
PYRENE	1.08

PCB'S	PCB 1242	325	MG/L (PPM)
	PCB 1260	300	MG/L (PPM)

TOTAL PCB 625 MG/L (PPM)

BALANCE TRACES OF MOST BASE
NEUTRAL COMPOUNDS.

MOST OF THESE DRUMS ARE IN VERY POOR CONDITION AND ARE SCATTERED
THROUGHOUT THE SITE. PERIODIC LEAKAGE OCCURS OR HAS OCCURRED FROM MANY
OF THEM. IT HAS BEEN ESTIMATED THAT ON A WORST CASE BASIS, IF ALL THE
DRUMS HAD TO BE TREATED AS 625 PPM PCB MATERIAL, THAT THE TOTAL COST OF
LIQUID DISPOSAL WOULD BE SE \$90,000. BROKEN DOWN THE COSTS WOULD BE
\$70,000 FOR DISPOSAL AND \$20,000 FOR ON SITE WORK.

WORST CASE ESTIMATES WERE MADE FOR SOLID REMOVAL ALSO.

DRUMS WITH SLUDGES & SOLIDS:

DISPOSAL (800 DRUMS X \$100)=	\$ 80,000
TRANSPORTATION (15 LOADS X \$2000)	30,000
ANALYSIS	10,000
ON-SITE LABOR, EQUIPMENT, MATERIAL	35,000

TOTAL	\$155,000

CONTAMINATED SOIL:

DISPOSAL (610 CUBIC YARDS X \$120/YD)	\$ 73,000
TRANSPORTATION 31 LOADS X \$2000	62,000
ON-SITE WORK	15,000

TOTAL	\$150,000

PLAN OF ACTION

THE OSC PRESENTLY PLANS ON TAKING ADVANTAGE OF THE ERT'S MOBIL LAB WHICH
WILL BE IN JEFFERSON, OHIO (10 MILES NORTH OF ROCK CREEK) STARTING THE
WEEK OF AUGUST 9, OR AUGUST 16 ON ANOTHER CLEANUP. THE ERT SHOULD BE
ABLE TO IDENTIFY WHICH DRUMS CONTAIN PCB'S AND THUS DECREASE THE
AMOUNT OF PCB LIQUID AND SLUDGES THAT WILL HAVE TO BE DISPOSED OF.
THIS SHOULD HELP TO DECREASE THE COST OF BOTH THE LIQUID AND SLUDGE
REMOVAL PHASES. THE OSC WILL REACCESS THE SITUATION AFTER THESE ANALYSES
ARE COMPLETED.

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO

WPCCLE WLKE
810-427-9255

CC: DEBBIE BERG, OHIO EPA, TWINSBURG
EILEEN BLOOM, USEPA, SC
ROGER MANNING, OER, COLUMBUS

WPCCLE WLKE
WESTLAKE, OHIO

TO: ✓ USEPA, HQ EMERGENCY RESPONSE, TWX 710-822-9269 EPA SPILLS WSH
✓ USEPA, SUPERFUND, REGION V, TWX 910-221-1062 USEPARRB, CGO
✓ USEPA, REGION V, EDO, GROSSE ILE, MI, TWX 810-231-7184 EPA GRI
① ✓ USEPA, REGION V, ESD, SRS, TWX 910-221-5191 WPCLMB

FROM: OSC, USEPA, REGION V , ESD, EDO, WESTLAKE, OHIO

POLREP: 11

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. 8-24-82-LIQUID SAMPLES FROM 600 DRUMS WERE DELIVERED TO ERT MOBIL LAB AT JEFFERSON, OHIO.. THEY WILL START ANALYSIS TO FIND DRUMS OF PCB'S. IT IS ESTIMATED THAT THE ANALYSIS SHOULD BE COMPLETED THE WEEK OF 9-13-82.
2. LOCAL CITIZEN INTEREST HAS BECOME MORE VOCAL. LETTERS SENT TO OSC AND ADMINISTRATOR GORSUCH.
3. 8-30-82-A CITIZEN FOUND A PILE OF 25 TO 30 DRUMS IN A FIELD NORTH OF THE OLD MILL SITE IN ROCK CREEK. DURING THE INITIAL INVESTIGATION BY THE SHERIFF'S DEPARTMENT, A DEPUTY EXPERIENCED EYE IRRITATION FROM THE VAPORS AND WAS SENT TO THE HOSPITAL. HE WAS LATER RELEASED. FURTHER INVESTIGATION BY FEDERAL, STATE, AND LOCAL OFFICIALS DISCLOSED ONE OF THE DRUMS TO CONTAIN LIQUIDS; SOME ARE EMPTY, AND A FEW CONTAIN SOME QUANTITIES OF SOLIDS. ONE DRUM CONTAINS TWO INCHES OF A CLEAR, MOLASSES-TYPE SUBSTANCE AND WAS INVOLVED IN THE INCIDENT OF EYE IRRITATION. THE DRUM HAS NOW BEEN CAPPED. ORGANIC VAPOR READINGS HAVE BEEN TAKEN AROUND THE DRUM PILE WITH NONE BEING FOUND. THIS INCIDENT IS STILL BEING INVESTIGATED BUT IT HAS HEIGHTENED THE LOCAL CITIZENS' FEAR OF THE OLD MILL SITE. THERE HAVE BEEN MEDIA COVERAGE OF THIS INCIDENT. THERE ARE ALSO REPORTS OF BURIED DRUMS AT THE SITE.
4. OF THE FIRST 100 DRUMS SAMPLES ANALYZED BY THE ERT ONLY ONE WAS FOUND TO CONTAIN PCB'S NEAR THE 100-PPM RANGE.

PLANS:

1. OSC WILL RE-EVALUATE THE SITUATION AT THE OLD MILL SITE ONCE ALL THE DRUM SAMPLES HAVE BEEN ANALYZED. A NEW ESTIMATE WILL THEN BE MADE ON SITE CLEAN UP COSTS, AND ANOTHER REQUEST FOR FUNDS WILL BE MADE TO ERD.
2. OSC IS, THROUGH THIS POLREP, REQUESTING TAT ASSISTANCE TO PERFORM A BURIED DRUM SURVEY AT THE NEW SITE NORTH OF THE OLD MILL SITE, USING A MAGNETOMETER. ALSO SAMPLING OF SOIL, WELLS, AND SUMPS WILL BE NECESSARY TO ASCERTAIN THE EXTENT OF CONTAMINATION AT BOTH SITES. THE TAT SHOULD DO THIS ALSO.

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO

WPCLMB

WPCLMB

Polkys 12

WU INFOMASTER 4-054956S263-001 09/20/82

ICS IPMBNGZ CSP

2162752711 DGM TDBN ASHTABULA OH 714 09-20 0547P EST

IWX 9102215191 WPCLMB

EMERGENCY RESPONSE

4224 EPA EMER

ATTENTION ALAN HUMPHREYS

1. PROJECT NAME: OLD MILL, ROCK CREEK, OHIO
2. ESTIMATED PERIOD OF PERFORMANCE 4-6 WEEKS
3. PROJECT OFFICER: JOSEPH FREDLE, REGION 5, EASTERN DISTRICT OFFICE, FTS8-293-7260
4. BACKGROUND: THE OLD MILL FACILITY IS LOCATED IN ROCK CREEK OHIO ADJACENT TO THE ROCK CREEK ALUMINUM COMPANY. THERE ARE 3 OCCUPIED HOUSES ACROSS THE STREET WITHIN 150 FEET OF FACILITY. ALSO, 50 FEET TO WEST OF FACILITY THERE IS A FEED GRAIN PACKAGING PLANT. THE OLD MILL SITE HAS 4 BARNS AND 4 SILOS LOCATED ON THE PROPERTY. THERE IS A PUBLIC GRADE SCHOOL WITH 250 STUDENTS WITHIN 1/2 MILE OF SITE. DRAINAGE FROM SITE LEADS TO GRAND RIVER APPROXIMATELY 14 MILES UPSTREAM FROM PUBLIC WATER SUPPLY SERVING 20,000 PEOPLE.

DURING NOVEMBER 1981 \$50,000 WAS APPROVED FOR IMMEDIATE REMOVAL WHICH WAS NOT IMPLEMENTED DUE TO SEVERE WEATHER CONDITIONS AND NEGOTIATIONS WITH GENERATORS WHICH RESULTED IN REMOVAL OF APPROXIMATELY 500 DRUMS. APPROXIMATELY 700 DRUMS REMAIN. 350 CONTAIN HIGHLY FLAMMABLE MATERIAL, PRIMARILY XYLENE. ANALYSIS OF SAMPLES SHOW 9 DRUMS WITH GREATER THAN 500 PPM PCB AND 52 DRUMS BETWEEN 50 PPM AND 500 PPM. OTHER HAZARDOUS MATERIAL IDENTIFIED INCLUDE ANTHRACENE, DIBENZOFURAN, FLUORANTHENE, 2-METHYLNAPHTHALENE, NAPHTHALENE, PCP PHENANTHRENE, TETRACHLOROETHYLENE, PYRENE, TRICHLOROETHANE.

8/30/82 APPROXIMATELY 30 DRUMS FOUND IN FIELD IN ROCK CREEK OHIO. DURING INITIAL INVESTIGATION A SHERIFF'S DEPARTMENT DEPUTY SUFFERED SEVERE EYES IRRITATION FROM VAPORS. FURTHER INVESTIGATION FOUND THAT THE DRUM WHICH CAUSED THE PROBLEM HAS SEVERAL INCHES OF CLEAR MOLASSES TYPE SUBSTANCE. THIS DRUM WAS CAPPED AND SEALED TO KEEP VAPORS DOWN.

9/12/82 EIGHT PEOPLE THAT LIVE AROUND SITE WERE REPORTED SICK WITH VOMITING AND FLU TYPE SYMPTOMS. THEY WENT TO EMERGENCY ROOM AT HOSPITAL. THEY BLAMED ILLNESS ON ODORS FROM NEW DRUM SITE.

9/20/82 RRT CONVENED IN JEFFERSON OHIO. AGENCIES REPRESENTED: US EPA, OHIO EPA, OHIO DEPARTMENT OF HEALTH, ROCK CREEK FIRE DEPARTMENT, ASHTABULA COUNTY HEALTH DEPARTMENT, ASHTABULA COUNTY COMMISSION, CONGRESSMAN DENNIS E ECKART (IN PERSON), CONGRESSMAN J WILLIAM STANTON.

MAJOR CONCLUSIONS:

1. THE OLD MILL SITE HAS SERIOUSLY DETERIORATED SINCE NOVEMBER. MANY MORE DRUMS ARE LEAKING AND DIRECT, ACUTE HEALTH EFFECTS HAVE OCURRED.
2. THE SITE CONSTITUTES AN EXTREME FIRE HAZARD. HIGHLY FLAMMABLE MILL BUILDINGS ADJACENT TO HIGHLY FLAMMABLE CHEMICALS. APPROXIMATELY 15,000 GALLONS. SMOKE WOULD BE VERY TOXIC. FIRE DEPARTMENT REPORTS IT WOULD BE UNABLE TO EFFECTIVELY FIGHT SUCH A FIRE. IT WOULD EVACUATE AREA AND CONTAIN EXPOSURES.
3. CONTINUED DEFERIORATION OF DRUMS WILL INCREASE HAZARD AND MAKE EVENTUAL REMOVAL MORE COSTLY.
4. LEVEL OF PUBLIC CONCERN EXTREMELY HIGH.
5. OEPA CONCURS THAT EMERGENCY EXISTS AND THAT THERE ARE NO STATE FUNDS AVAILABLE FOR IMMEDIATE REMOVAL.
6. COMPLETION OF IMMEDIATE REMOVAL IMPERATIVE WITHIN 6 - 8 WEEKS DUE TO IMPENDING WINTER CONDITIONS WHICH ARE SEVERE IN THIS AREA. WINTER CONDITIONS WOULD PROBABLY RESULT IN MAJOR RELEASE OF CHEMICALS DURING SPRING.
7. ODH STATES THAT IT HAS WRITTEN MEDICAL OPINIONS, THAT IN AT LEAST 3 CASES, ACUTE SYMPTOMS ARE DUE TO EXPOSURE TO CHEMICALS.
8. THE SECONDARY SITE IS CLOSELY RELATED TO THE MAIN SITE BUT IS NOT PART OF THE EMERGENCY SINCE FIRE HAZARD AT SECONDARY SITE IS MINIMAL.
9. SECURITY AT MAIN SITE IS INADEQUATE IN SPITE OF FREQUENT PATROLS BY LOCAL OFFICIALS.

RECOMMENDED ACTIONS:

1. IMMEDIATE REMOVAL OF ALL PCB DRUMS. DRUMS WITH GREATER THAN 500 PPM TO BE INCINERATED. DRUMS WITH 50 - 500 PPM TO LAND FILL OR INCINERATION.
2. REMOVAL AND DISPOSAL OF ALL DRUMS CONTAINING FLAMMABLE MATERIAL.
3. REMOVAL OF REMAINING ABOVE GROUND DRUMS. NOTE: COST OF SEGREGATION OF FLAMMABLE FROM NONFLAMMABLE HIGHER THAN REMOVAL OF ALL DRUMS.
4. PROVIDE SITE SECURITY.
5. REMEDIAL PROGRAM TO EVALUATE AND REMOVE CONTAMINATED SOILS AS NECESSARY.

PROJECT COSTS:

THE PRESENT PROJECT CEILING IS \$50,000 IN THE IMMEDIATE REMOVAL CATEGORY, \$15,000 OF WHICH HAS BEEN SPENT ON SAMPLING AND ANALYSIS. REVISED TOTAL COST OF RECOMMENDED ACTIONS 1 THROUGH 4 IS \$156,000. REQUEST INCREASE IN CEILING OF \$106,000.

THE FOLLOWING OPTIONS WERE CONSIDERED:

1. NO ACTION - DISCARDED BECAUSE OF FIRE HAZARD PCB CONTAMINATION AND INCREASED COSTS AS SITE DETERIORATES.
2. DISPOSAL OF HIGH PCB DRUMS PLUS DISPOSAL OF FLAMMABLE NONCHLORINATED MATERIAL (\$31,000). THIS APPROACH WAS REJECTED BECAUSE IT LEFT MAJOR FIRE HAZARD AND SIGNIFICANT PCB CONTAMINATION.
3. DISPOSAL OF ALL PCB DRUMS (\$36,000). REJECTED BECAUSE MAJOR FIRE HAZARD WOULD PERSIST.

JOSEPH FREDLE OSC SPILL RESPONSE SECTION REGION 5 WESTLAKE OHIO

1756 EST

WPCCLE WLKE

Q

Joe

WPCLMB

WPCCLE WLKE

WPCCLE

DATE: OCTOBER 6, 1982.

FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO

TO: ✓ USEPA HQ EMERGENCY RESPONSE (TWX 710-822-9269) EPA SPILLS WSH
✓ ROBERT BOWDEN, REGION V, ESD (TWX 910-221-5191 WPCLMB)
✓ USEPA, REGION V, EDO, GROSSE ILE, MI (810-231-7184 EPA GRD)
✓ USEPA, REGION V, SUPERFUND, (TWX 910-221-1062 USEPARRB CGC)

POLREP 13

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. PCB CONTAMINATED LIQUIDS AND CHLORINATED LIQUIDS REMOVED FROM 82 DRUMS.
2. 4,000 GALLONS OF PCB LIQUIDS SENT TO ALABAMA FOR INCINERATION.
3. INITIATE GROUND WATER MONITORING SURVEY AT PRIVATELY OWNED WELLS AND OTHER SURFACE WATER NEAR THE SITE.

PLAN OF ACTION:

1. COMMENSE REMOVAL OF NON-CHLORINATED FLAMMABLE LIQUIDS.

JOSEPH FREDLE, OSC, ESD, REGION V, WESTLAKE, OHIO

CC: ✓ DEBBIE BERG, OEPB, TWINSBERG
✓ EILEEN BLOOM, SC
✓ ROGER HANNAHS, COLUMBUS, EPA
(TWX 810-427-9255)

WPCLMB

WPCLMB

WPCCLE WLKE

DATE: OCTOBER 7, 1982

FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO

TO: USEPA, HQ EMERGENCY RESPONSE (TWX 710-822-9269) EPA SPILLS WSH

ROBERT BOWDEN, REGION V, ESD, (TWX 910-221-5191) WPCLMB

USEPA, REGION V, EDO, GROSSE ILE, MI (TWX 810-231-7184) EPA GRI

USEPA, REGION V, SUPERFUND (TWX 910-221-1062) USEPARRB CGO

POLREP 14

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. PCB CONTAMINATED LIQUIDS AND CHLORINATED LIQUIDS WERE REMOVED FROM 82 DRUMS.

THE 4,000 GALLONS OF BULKED PCB LIQUID WERE SENT TO CHEMICAL WASTE MANAGEMENT IN ALABAMA FOR INCINERATION ON OCTOBER 6, 1982.

2. BULKING OF FLAMMABLE, NON-CHLORINATED LIQUIDS FROM APPROXIMATELY 250 DRUMS COMPLETED ON OCTOBER 7, 1982. TOTAL QUANTITY OF BULKED MATERIAL ESTIMATED AT 6,000 GALLONS.

3. SAMPLING OF PRIVATE WELLS AND SURFACE WATER NEAR SITE COMPLETED BY TAT ON OCTOBER 6, 1982. SAMPLES ARE EN ROUTE TO VIAR CONTRACTOR FOR EXPEDITED ANALYSIS.

PLAN:

1. SAMPLE OF BULKED FLAMMABLE, NON-CHLORINATED LIQUID TO BE DELIVERED TO SYSTEC ON OCTOBER 7, 1982 FOR ANALYSIS. SYSTEC EXPECTS TO BE ABLE TO ADVISE OSC ON ACCEPTANCE OF WASTE ON OCTOBER 8, 1982.

2. COMMENCE STAGING OF DRUMS ON OCTOBER 7, 1982 ACCORDING TO CATEGORY:

- A. DRUMS THAT CONTAIN PCB LIQUIDS
 - B. DRUMS WITH 1-5 INCHES OF SLUDGE
 - C. DRUMS OF MORE THAN 5 INCHES OF SLUDGE

3. COMMENCE BULKING OF NON-FLAMMABLE, NON-CHLORINATED LIQUIDS ON OCTOBER 7, 1982 FROM APPROXIMATELY 70 DRUMS - FINALIZE ARRANGEMENTS WITH CHEM KLEAR TO ACCEPT THE LIQUIDS.

4. USEPA TO LOCATE AND ARRANGE FOR A LOCAL LANDFILL TO ACCEPT DRUMS WITH SOLIDS.

5. CONTINUE EFFORTS WITH CHEM MET TO ACCEPT THE DRUMS WITH SLUDGES FOR DISPOSAL.

6. CONTINUE EFFORTS WITH CECOS TO ACCEPT DRUMS FOR DISPOSAL WITH PCB CONTAMINATED SOLIDS.

7. SO AS NOT TO DELAY THE SITE CLEAN UP, WORK WILL CONTINUE THROUGH THIS WEEKEND.

STATUS: CASE OPEN

JOSEPH FREDIE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO

EPA GRI

WPCCLE WLKE

DATE: OCTOBER 12, 1982
FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO
TO: USEPA HQ EMERGENCY RESPONSE (TWX 710-822-9269), EPA SPILLS WSH
ROBERT BOWDEN, REGION V, ESD, (TWX 910-221-5191), WPCLMB
USEPA, REGION V, EDO, GROSSE ILE, MI (TWX 810-231-7184) EPA GRI
USEPA, REGION V, SUPERFUND (TWX 910-221-1062) USEPARRB CGO

POLREP L'S

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. AN ADDITIONAL 2,000 GALLONS OF FLAMMABLE LIQUID HAVE BEEN LOCATED AND PUMPED OUT OF THE DRUMS. TOTAL TO DATE IS 8,000 GALLONS.
2. 500 GALLONS OF INORGANIC LIQUID HAVE BEEN PUMPED OUT AND WILL BE SENT TO CHEM CLEAR.
3. 150 DRUMS OF SLUDGES HAVE BEEN SOLIDIFIED WITH 40 (1 LOAD) BEING SENT OFF-SITE TO CHEM MET FOR DISPOSAL.
4. 200 RESIDUAL DRUMS HAVE BEEN SENT OFF-SITE FOR DISPOSAL AT AN OHIO EPA APPROVED LANDFILL.
5. SYSTECH REJECTED THE LOAD OF FLAMMABLE LIQUID BECAUSE OF EXCESSIVE WATER CONTENT.
6. TOTAL COST TO DATE IS ESTIMATED TO BE \$62,200.

PLANS:

1. 300 REMAINING DRUMS WILL BE SOLIDIFIED AT A RATE OF 150 DRUMS PER DAY AND SENT TO CHEM MET AT A RATE OF 120 DRUMS PER DAY.
2. 64 EMPTY AND SOLIDIFIED PCB DRUMS ARE AWAITING APPROVAL FOR ACCEPTANCE AT CECOS. THIS APPROVAL SHOULD BE GIVEN ON 10/13/82 AND THE DRUMS WILL THEN BE SENT OUT.
3. IF OPERATIONS PROCEED AS PLANNED, MATERIAL SHOULD ALL BE OFF-SITE BY THE END OF THIS WEEK.

STATUS: CASE OPEN

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO
(TWX 810-427-9255)

CC: DEBBIE BERG, OEPB, TWINSBERG
EILEEN BLOOM, SC
ROGER HANNAHS, COLUMBUS EPA

ENDIT *Marcia Carlson, 5FA*

EPA GRI

USEPARRB CGO

WPCCLE WLKE

DATE: OCTOBER 15, 1982

FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO

TO: USEPA-HQ EMERGENCY RESPONSE (TWX 710-822-9269), EPA SPILLS JSH

ROBERT BOWDEN, REGION V, ESD, (TWX 910-221-5191), WPCLMB

USEPA, REGION V, EDO, GROSSE ILE, MI (TWX 810-231-7184), EPA GRI

USEPA, REGION V, SUPERFUND (TWX 910-221-1062), USEPARRB CGO

POLREP 16

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. AN ADDITIONAL 1,000 GALLONS OF FLAMMABLE LIQUID HAVE BEEN LOCATED AND PUMPED OUT OF DRUMS. TOTAL TO DATE IS 9,000 GALLONS.
2. 185 DRUMS OF SLUDGES SOLIDIFIED, TOTAL TO DATE 335 DRUMS SOLIDIFIED. ALL HAVE BEEN LOADED (A TOTAL OF 5 LOADS FOR CHEM MET).
3. TOTAL COST TO DATE IS ESTIMATED TO BE \$89,500.

PLANS:

1. CONTINUE TO SOLIDIFY AND LOAD SLUDGES FOR CHEM MET. IT IS ESTIMATED THAT ONE MORE LOAD IS LEFT ON SITE.
2. SOLIDIFY AND LOAD PCB DRUMS AND SLUDGES FOR DISPOSAL AT CECOS.
3. LOCATE A DISPOSAL SITE FOR FLAMMABLES.

STATUS: CASE OPEN

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO
(TWX 810-427-9255)

CC: DEBBIE BERG, OEPA, TWINSBERG
EILEEN BLOOM, SCA
MARCI CARLSON, SPA
ROGER HANNAHS, CO EPA

END IT.

USEPARRB CGO

WPCCLE WLKE

DATE: OCTOBER 21, 1982

FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO

TO: ✓USEPA HQ EMERGENCY RESPONSE (TWX 710-822-9269) EPA SPILLS WSH

✓ROBERT BOWDEN, REGION V, ESD (TWX 910-221-5191) WPCLMB

✓USEPA, REGION V, EDO, GROSSE ILE, MI (TWX 810-231-7184) EPA GRI

✓USEPA, REGION V, SUPERFUND (TWX 910-221-1062) USEPARRB CGO

POLREP 17

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. ON OCTOBER 19, 1982, ALL DRUMMED MATERIAL REMOVED FROM SITE.
2. ONE TO TWO INCHES OF CONTAMINATED SOIL HAS BEEN SCRAPED INTO TWO PILES FROM AREAS WHERE THE MAJORITY OF DRUMS HAD BEEN LOCATED. THESE PILES WERE COVERED WITH PLASTIC TO KEEP THE RAIN OUT. COMPOSITE SAMPLES WERE TAKEN FROM EACH PILE FOR ANALYSES.
3. A TOTAL OF 4,000 GALLONS OF PCB LIQUIDS HAVE BEEN TAKEN TO CHEMICAL WASTE MANAGEMENT IN ALABAMA FOR INCINERATION.
4. A TOTAL OF 9,500 GALLONS OF FLAMMABLE LIQUIDS WILL BE TAKEN TO SOLVENT RESOURCES IN DAYTON, OHIO FOR DISPOSAL.
5. A TOTAL OF 650 GALLONS OF INORGANIC LIQUIDS WAS TAKEN TO CHEM CLEAR FOR TREATMENT AND DISPOSAL.
6. A TOTAL OF 245 RESIDUAL DRUMS WERE DISPOSED OF AT AN OHIO EPA APPROVED DISPOSAL SITE.
7. A TOTAL OF 64 PCB CONTAMINATED DRUMS WILL BE DISPOSED OF AT CECOS -- CER IN WILLIAMSBURG, OHIO.
8. A TOTAL OF 406 DRUMS OF SLUDGES WERE SOLIDIFIED AND SENT TO CHEM MET IN WYANDOTTE, MICHIGAN FOR DISPOSAL.
9. ON OCTOBER 15, 1982, ROCKWELL REMOVED 35 DRUMS FROM THE SITE.
10. COST TO DATE IS ESTIMATED TO BE \$119,000.

PLANS:

1. DISPOSE OF CONTAMINATED SOIL AFTER ANALYSES IS COMPLETE OF COMPOSITE SAMPLES.
2. CHECK FOR BURIED DRUMS AT THE NEW DRUM SITE DURING THE ABOVE MENTIONED SOIL REMOVAL.

STATUS: CASE OPEN

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO
(TWX 810-427-9255)

CC: ✓DEBBIE BERG, OEP, TWINSBERG
✓EILEEN BLOOM, SC
✓MARCIA CARLSON, SPA
✓ROGER HANNAHS, CO EPA

END IT ✓APW

EPA SPILLS WSH

WPCCLE WLKE

DATE: NOVEMBER 19, 1982
FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO
TO: USEPA HQ EMERGENCY RESPONSE (TWX 710-822-9269) EPA SPILLS WSH
ROBERT BOWDEN, REGION V, ESD (TWX 910-221-5191) WPCLMB
USEPA, REGION V, EDO, GROSSE ILE, MI (TWX 810-231-7184) EPA GRI
USEPA, REGION V, SUPERFUND (TWX 910-221-1062) USEPARRB CGO

POLREP 18

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. 11-10-82, RESULTS FROM CONTAMINATED SOIL PILES SHOW LOW PCB CONTAMINATION (2 TO 5 PPM) AND SOME SOLVENT CONTAMINATION AS LISTED BELOW:

AREA C.

METHYLENE CHLORIDE -----	33 PPM
TRICHLOROETHYLENE -----	65 PPM
TETRACHLOROETHYLENE -----	16 PPM
TOLUENE -----	16 PPM
ETHYLBENZENE -----	13 PPM
XYLENES -----	18 PPM

AREA D & E

DICHLOROETHYLENE -----	25 PPM
1,1,1-TRICHLOROETHANE ----	8 PPM
TRICHLOROETHYLENE -----	120 PPM
TETRACHLOROETHYLENE -----	200 PPM
TOLUENE -----	16 PPM
ETHYLBENZENE -----	22 PPM
XYLENES -----	50 PPM

2. 11-12-82, THE TWO PILES OF CONTAMINATED SOIL WERE REMOVED (APPROXIMATELY 80 CUBIC YARDS) AND DISPOSED OF AT THE FONDESSY LANDFILL NEAR OREGON, OHIO.
3. 11-12-82, TEN EXPLORATION HOLES WERE DUG AT THE NEW DRUM SITE TO SPOT CHECK THE POSSIBILITY OF BURIED DRUMS UNDER THE PILES OF RAILROAD BALLAST AND IN THE STAINED AREA. NO INDICATION OF BURIED DRUMS WAS FOUND IN ANY OF THE HOLES.
4. 11-16-82, SURFACE SOIL SAMPLING ON THE OLD MILL SITE WAS ACCOMPLISHED BY USING A GRID SYSTEM FOR LOCATING THE SAMPLING POINTS. THIRTY-FOUR SAMPLES WERE COLLECTED AND TEN OF THE MOST CONTAMINATED SAMPLES (BY HNU READINGS) HAVE BEEN SENT FOR ANALYSIS.
5. RESULTS FROM THE WATER SAMPLES COLLECTED ON 10-6-82 HAVE NOT COME IN YET.
6. 11-17-82, A SECOND SAMPLING OF THE WATER WELLS AND SUMPS SAMPLED ON 10-6-82 WAS DONE. A FAST TURNAROUND TIME ON THIS SET OF SAMPLES IS EXPECTED.
7. ITEM #6 IN POLREP 17 SHOULD BE CORRECTED TO READ 305

NEW DRUM SITE ON 9-14-82 SHOW:

S01

(HOOKER DRUM)

PPM

ETHYL BENZENE

34

METHYLENE CHLORIDE

27

NOT QUANTIFIED

2,2-OXY-BIS-ETHANOL

1,2-BENZENE DICARBOXYLIC ACID

STYRENE

"S

S02

(X)

PPM

ETHYL BENZENE

18,000

METHYLENE CHLORIDE

610

TOLUENE

510

NOT QUANTIFIED

ETHYL DIMETHYL BENZENE

ETHYL METHYL BENZENE

S03

(Y)

PPM

DIMETHYL PHTHALATE

700

METHYLENE CHLORIDE

60,000

NOT QUANTIFIED

ETHYLENE GLYCOL DIACETATE

STYRENE

S04

(Z)

PPM

2,4 DIMETHYL PHENOL

130

PHENOL

260

ETHYL BENZENE

74,000

METHYLENE CHLORIDE

61,000

TOLUENE

200,000

NOT QUANTIFIED

P ETHYL METHYL BENZENE

CHLORO METHYL BENZENE

METHYL HEPTYL ESTER OF PROPENOIC ACID

BHT

4-METHYL-2-PENTANONE

THESE DRUMS HAVE ALREADY BEEN DISPOSED OF.

PLANS:

1. WHEN THE SOIL AND WATER SAMPLE RESULTS ARE IN, THEY WILL BE USED TO DETERMINE THE URGENCY OF FURTHER ACTION AT THIS SITE.

STATUS: CASE OPEN

JOSEPH FREDLE, OSC, ESD, REGION V, WESTLAKE, OHIO
(PWX 810-427-9355)

DEBBIE BERG, OFPA, TWINSBURG

EPA SPILLS WSH

WPCCLE WLKE

DATE: DECEMBER 17, 1982
FROM: OSC, USEPA, REGION V, ESD, EDO, WESTLAKE, OHIO
TO: USEPA HQ EMERGENCY RESPONSE (TWX 710-822-9269)
ROBERT BOWDEN, REGION V, ESD, (TWX 910-221-5191)
USEPA, REGION V, EDO, GROSSE ILE, MI (TWX 810-231-7184)
USEPA, REGION V, SUPERFUND (TWX 910-221-1062)

POLREP 19

SUBJECT: OLD MILL SITE, ROCK CREEK, OHIO

ACTION:

1. WELL SAMPLE RESULTS FROM AREA SURROUNDING SITE DID NOT SHOW ANY INDICATIONS OF ANY SIGNIFICANT CONTAMINATION FROM THE SITE.
2. SOIL ON SITE IS STILL CONTAMINATED BUT IT HAS BEEN DETERMINED THAT THERE IS NO NEED FOR FURTHER IMMEDIATE REMOVAL ACTION AT THIS TIME.
3. THIS SITE HAS BEEN REFERRED TO THE WASTE MANAGEMENT DIVISION FOR FURTHER REMEDIAL ACTION.
4. OSC REPORT WILL FOLLOW.

STATUS: CASE OPEN

JOSEPH FREDLE, OSC, ESD, EDO, REGION V, WESTLAKE, OHIO
(TWX 810-427-9255)

CC: DEBBIE BERG, OEPA, TWINSBERG
EILEEN BLOOM, SC
MARCIA CARLSON, SPA
ROGER HANNAHS, OEPA, CO

END I

APPENDIX E - CORRESPONDENCE

June 4, 1980

COPY FOR YOUR
REFERENCE

CERTIFIED MAIL

Mr. Jack Webb
5320 Ford Road
Thompson, Ohio 43076

Dear Mr. Webb:

Officials of the U.S. Environmental Protection Agency (EPA) have conducted a number of inspections at your Feed Mill facility on Mill Road in Rock Creek, Ohio over the past year. On June 2, 1980 samples were collected from the site. The sample results have indicated the presence of mercury, arsenic, chromium, zinc, phenols and polychlorinated biphenyls. As a result of these inspections and sampling it has been determined that there is a substantial threat of discharge of a hazardous substance into a tributary of Rock Creek which flows via the Grand River to Lake Erie, a navigable water of the United States.

It is the policy of the U.S. EPA to request the owner or operator of the site or facility from which there is a threat of discharge to accept the responsibility to abate that threat. If the owner or operator is unable or unwilling to take steps necessary to eliminate the threat of discharge, the U.S. EPA will initiate such action using Federal funds pursuant to 33 U.S.C. 1321 (c)(1). The owner of the site may then be liable for the costs of the remedial actions subject to the liabilities and limitations of 33 U.S.C. 1321 (f).

As the Federal On-Site Coordinator in this instance, I am hereby formally requesting the following temporary remedial action:

1. Remove all drummed material from the south side of the site. The material should be disposed of at an Ohio EPA approved site.
2. Since many of the drums are in various states of deterioration and in danger of leaking, any rainwater runoff from the drum storage areas should be contained and treated before being allowed to leave the property.

Please notify me of your intention to undertake this work by August 29, 1980.
I can be contacted at the above address or by telephone (216-835-5200).

Sincerely,

Joseph J. Fredle
On-Scene Coordinator

JJFredle/ag
8-22-80



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 3 1981

OFFICE OF
LEGAL COUNSEL AND ENFORCEMENT

CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Mr. Jack Webb
5320 Ford Road
Thompson, Ohio 44086

Dear Sir:

The United States Environmental Protection Agency is about to commence federally financed clean-up actions, pursuant to Section 104 of the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980" (CERCLA), at the property located at Mill Road, in Rock Creek, Ohio. This action is based on EPA's determination that conditions at the site meet the definition of a "hazardous substance release" under Section 101 of CERCLA, 42 U.S.C. 6901.

Under Section 104 of CERCLA, the President (or his designee) is authorized to undertake removal and remedial actions at a site in order to protect the public health, welfare, and the environment, unless it is determined that such action will be done properly by an owner, operator, or other responsible party. EPA, as the designee of the President under Executive Order 12316, has determined that you may be a responsible party with respect to this site. Based on this determination, you have the option of undertaking necessary and appropriate response actions in lieu of continued EPA action.

Given the information currently available to us, we believe that the following actions need to be undertaken.

1. characterization of drum contents, separation and repackaging of drums as appropriate, and proper removal, transportation and disposal of all hazardous substances;
2. a. installation of monitoring devices to determine the extent of groundwater contamination; and
- b. development of plans and specifications leading to removal of the remaining contaminants.

By this letter, we are requesting that you develop and submit to EPA a response and implementation schedule by which you will undertake these actions as well as any other actions which the Agency may approve as appropriate to eliminate or mitigate the hazard.

Within 72 hours of the receipt of this letter, you should contact Mr. Joseph Fredle, Oil & Hazardous Materials Coordinator, U.S. Environmental Protection Agency, Eastern District Office, 25089 Center Ridge Road, West Lake, Ohio 44145 (phone # (216) 293-7260), and state whether you will take the response measures listed above. Failure to contact Mr. Fredle will be viewed by the Agency as a decision to decline to undertake the response measures.

If you do agree to undertake these measures, you should arrange with Mr. Fredle for a meeting with Agency representatives in the near future to develop a schedule for the Agency-approved completion of the response activities.

We also wish to point out to you that under Section 107 of CERCLA and other applicable federal law, you may be held liable for costs incurred by the United States Government in undertaking response activities should you decline to take the measures indicated in this letter or other measures deemed appropriate by the Agency.

The measures outlined above are intended to eliminate any fire and explosion hazards at the site and to prevent additional leakage into the ground. Therefore, they constitute only the initial stage of the complete removal and remedial plan. If and when additional information on the extent of the problem at the site is available, we would expect to work with you to make modifications as appropriate.

Sincerely yours,



William A. Sullivan, Jr.
Enforcement Counsel



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

CV 3 1981

OFFICE OF
LEGAL COUNSEL AND ENFORCEMENT

CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Stan Schwartz, President
Hydrasoil Corp.
P.O. Box 860
Westbury, N.Y. 11590

Dear Sir:

The United States Environmental Protection Agency is about to commence federally financed clean-up actions, pursuant to Section 104 of the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980" (CERCLA), at the property located at Mill Road, in Rock Creek, Ohio. This action is based on EPA's determination that conditions at the site meet the definition of a "hazardous substance release" under Section 101 of CERCLA, 42 U.S.C. 6901.

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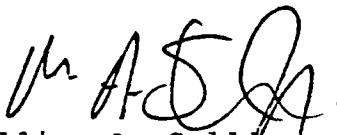
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Sincerely yours,



William A. Sullivan, Jr.
Enforcement Counsel



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 3 1981

OFFICE OF
LEGAL COUNSEL AND ENFORCEMENT

CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Robert Henfield, Inc.
633 Huron Road
Cleveland, Ohio 44115

Dear Sir:

The United States Environmental Protection Agency is about to commence federally financed clean-up actions, pursuant to Section 104 of the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980" (CERCLA), at the property located at Mill Road, in Rock Creek, Ohio. This action is based on EPA's determination that conditions at the site meet the definition of a "hazardous substance release" under Section 101 of CERCLA, 42 U.S.C. 6901.

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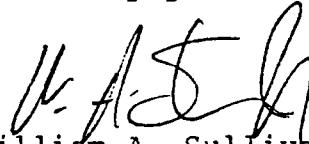
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We also wish to point out to you that under Section 107 of CERCLA and other applicable federal law, you may be held liable for costs incurred by the United States Government in undertaking response activities should you decline to take the measures indicated in this letter or other measures deemed appropriate by the Agency.

The measures outlined above are intended to eliminate any fire and explosion hazards at the site and to prevent additional leakage into the ground. Therefore, they constitute only the initial stage of the complete removal and remedial plan. If and when additional information on the extent of the problem at the site is available, we would expect to work with you to make modifications as appropriate.

Sincerely yours,



William A. Sullivan, Jr.
Enforcement Counsel



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
LEGAL COUNSEL AND ENFORCEMENT

CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Charles Stillman, President
Rapco Foam Inc.
22 5th Street
Stamford, CT 06904

Dear Sir:

The United States Environmental Protection Agency is about to commence federally financed clean-up actions, pursuant to Section 104 of the "Comprehensive Environmental Response, Compensation, and Liability Act of 1980" (CERCLA), at the property located at Mill Road, in Rock Creek, Ohio. This action is based on EPA's determination that conditions at the site meet the definition of a "hazardous substance release" under Section 101 of CERCLA, 42 U.S.C. 6901.

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- b. development of plans and specifications leading to removal of the remaining contaminants.

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We also wish to point out to you that under Section 107 of CERCLA and other applicable federal law, you may be held liable for costs incurred by the United States Government in undertaking response activities should you decline to take the measures indicated in this letter or other measures deemed appropriate by the Agency.

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Sincerely yours,



William A. Sullivan, Jr.
Enforcement Counsel



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

JUL 6 1982

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

George Liviola, Jr., Secy./Treasurer
Ashtabula County Septic and Waste Services, Inc.
355 Prospect Road
Ashtabula, Ohio 44004

Re: Request of Information
Ashtabula County Septic and
Waste Services, Inc.
Ashtabula, Ohio

Dear Mr. Liviola:

The United States Environmental Protection Agency (U.S. EPA), Region V office has become aware that wastes have been transported or disposed of by Ashtabula County Septic and Waste Services, Inc. at the site formerly operated by Western Nurseries and/or Hydrasoil located at Station and Mill Street, Rock Creek, Ohio. Such wastes have been causing a hazardous situation. A series of discharges to navigable waters have occurred at the facility. Hazardous wastes have been found in the discharges and on the premises. Region V of the U.S. EPA, in conjunction with the Ohio EPA, is engaged in a project pursuant to Section 104 of the Comprehensive Environmental Response & Liability Act (CERCLA) to arrange for the removal of the wastes.

Region V of the U.S. EPA is gathering information to allow us to properly assess potential or actual health or environmental problems associated with waste handling and disposal practices at the Rock Creek site. The information is requested pursuant to Section 104(e) of CERCLA (42 U.S.C. §9609).

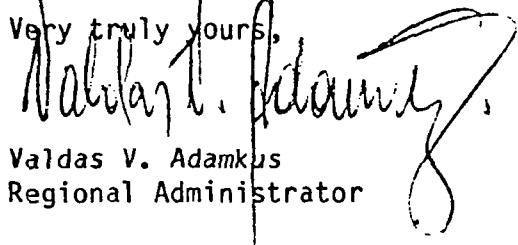
The focus of this inquiry is on the hauling or disposal of wastes by Ashtabula County Septic and Waste Services, Inc. to the Rock Creek site from 1973 to 1980. We realize you may not have formal records that cover the entire span of interest in this request. Nevertheless, every reasonable effort should be made to reconstruct the waste handling practices for which records do not exist. This effort should include interviews with employees as needed. We are aware of the agreement between your company and Rockwell International Plastics Division under P.O. N-33465 of July 9, 1975 and subsequent renewals for the disposal of drummed wastes. We would appreciate a thorough search of your records concerning this agreement, as a number of the drums of wastes generated by Rockwell are present at the Rock Creek site.

The information requested herein must be provided to this office notwithstanding its possible characterization as confidential information. However you may assert a business confidentiality claim covering all or part of the information in the manner described in 40 CFR §2.203(b). Information covered by such a claim will be disclosed by U.S. EPA only to the extent and by the means of the procedures set forth in 40 CFR, Part 2, Subpart B. Any request for confidentiality must be made when the information is submitted, since any information not so identified may be made available to the public without further notice.

The written statements submitted pursuant to this request must be notarized and submitted under an authorized signature certifying that all statements contained therein are true and accurate to the best of the signatory's knowledge and belief. Moreover, any documents submitted to Region V pursuant to this information request should be certified as true and authentic to the best of the signatory's knowledge and belief. Should the signatory find, at any time after submittal of the requested information, that any portion of the submitted information is false, the signatory should so notify Region V. If any answer certified as true should be found to be untrue, the signatory can and may be prosecuted pursuant to 18 U.S.C §1001.

If you have any questions regarding this matter, please contact Ms. Eileen R. Bloom, an attorney on my staff, at (312) 886-6731. Your response should be sent to Ms. Bloom at the Office of Enforcement Counsel, U.S. EPA, Region V, 230 South Dearborn Street, Chicago, Illinois 60604.

Very truly yours,

A handwritten signature in black ink, appearing to read "Valdas V. Adamkus".

Valdas V. Adamkus
Regional Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

July 6, 1982

WALTER
Mayor Kenneth Brown
City Hall
Rock Creek, Ohio 44084

Dear Mayor Brown:

I am sending this letter in an effort to keep you informed of our clean up efforts at the Old Mill Site on Mechanics Street in Rock Creek.

As you know, \$50,000 was allocated under Superfund last fall to initiate the clean up of the site. The initial effort was to be directed at the removal of flammable liquids from drums on the site. At that time, there were approximately 1,250 drums on the site. Many of these contained liquid flammable material. The first step in the clean up process was to sample each drum and perform compatibility tests on those samples. The results from these tests showed that most of the materials in the drums are compatible. Subsequently, a composite sample was prepared for analysis to determine an acceptable disposal method, as well as provide data required by disposal facilities.

Simultaneously, our attorneys have been pursuing voluntary clean up agreements with the generators of the waste at the site. These efforts have resulted in two of the generators removing 360 drums from the site last fall. Another generator has staged 130 drums for removal pending final approval of the clean up agreement. Negotiations are under way with other generators for the removal of more of the waste.

My plans for the clean up of this site are to proceed with the removal of all liquids from the drums as soon as analytical results are available and a disposal site accepts the liquid for incineration. I anticipate that the removal of the liquids will occur in mid July. That will then leave the empty drums and drums with various amounts of solid material on the site. With the remaining funds, I will attempt to deal with as much of the solid material that is left on the site after the liquid has been removed. However, additional funds may be required to complete the clean up of the site.

CONCURRENCES

SYMBOL	<i>(A)</i>	<i>(H)</i>						
SURNAME								
DATE	<i>7-7</i>	<i>7-7</i>						

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

If you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Joseph Fredle,
On-Scene Coordinator

cc: Mike Wheeler, Astabula County Disaster Services
Arlene Frederick, 2672 East Water Street, Rock Creek, Ohio 44084
Mary Puchein, 2952 High Street, Rock Creek, Ohio 44084
Debbie Berg, OEPA, Twinsburg
Vernon Googe, Fire Chief, Rock Creek Fire Department
Marcia Carlson, U. S. EPA, Region V, 5PA

JF/jc:7/6/82

bcc: Eileen Bloom, 5C

ONCURRENCES

SYMBOL								
SURNAME	.....	.....	.....	.....	.....	.....	.....	.....
DATE	.....	.....	.....	.....	.....	.....	.....	.....

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

August 3, 1982

WALTER
Mayor Kenneth Brown
City Hall
Rock Creek, Ohio 44084

Dear Mayor Brown:

Here are the latest developments in our clean up efforts at the Old Mill Site on Mechanics Street in Rock Creek.

There are now 750 to 800 drums on the site. Most of these drums contain between 5 and 55 gallons of liquid. There is approximately 21,000 gallons of liquid left on the site, 85% of which is flammable. A composite analysis shows the liquid to contain:

			%
Water			5.0
Xylene			72.1
1,1,1-trichloroethane			7.8
Tetrachloroethylene			4.6
Naphthalene			1.4
2-methyl naphthalene			1.2
1,2-dihydro acenaphthylene			1.6
Dibenzofuran			1.1
Anthracene			0.82
Phenanthren			0.75
Fluoranthene			1.04
Pyrene			1.08
PCB's	PCB 1242	325	MG/L (PPM)
	PCB 1260	300	MG/L (PPM)
TOTAL PCB		625	MG/L (PPM)

I presently plan on taking advantage of our mobile laboratory which will be in Jefferson, Ohio starting the week of August 9, or August 16 on another clean up project. The laboratory will perform analyses to identify which drums contain PCB's and thus determine the amount of PCB liquid and sludges that will have to be disposed. This should help to decrease the cost of both the liquid and sludge removal phases. I will reassess the situation after these analyses are completed.

CONCURRENCES

SYMBOL							
SURNAME	1	<i>Affix</i>					
DATE	8-3-82	8/3/82					

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

If you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Joseph Fredle,
On-Scene Coordinator

cc: Mike Wheeler, Ashtabula County Disaster Services
Arlene Frederick, 2672 East Water Street, Rock Creek, Ohio 44084
Mary Puchein, 2952 High Street, Rock Creek, Ohio 44084
Debbie Berg, OEPA, Twinsburg
Vernon Googe, Fire Chief, Rock Creek Fire Department
Marcia Carlson, USEPA, Region V, 5PA

JF/eh:8/3/82

CONCURRENCES

SYMBOL								
SURNAME	.....	.....	.....	.....	.....	.....	.....	.....
DATE	.....	.....	.....	.....	.....	.....	.....	.....



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

SPA

FACT SHEET

U.S. EPA Cleanup at Old Mill Site, Rock Creek, Ohio

On October 1, 1982, U.S. EPA announced the approval of an additional \$110,000 of Superfund monies to complete the surface cleanup of the Old Mill site in Rock Creek. (An earlier Superfund allocation of \$50,000 had been provided for site cleanup. Discovery of PCB contaminated materials made this amount inadequate for a total surface cleanup.)

At that time over 700 55-gallon drums of hazardous waste material remained on the site as well as 52 recently discovered drums in an area adjacent to the site. Through September 1982, some 530 drums had been removed from the site through agreements with identified generators.

Removal work, with the new appropriation ceiling of \$160,000, began on October 4.

On October 19, all drummed material had been removed from the site, as well as the 52 adjacent drums.

Summary of Removal Actions:

1. 4,000 gallons of PCB contaminated liquids were taken to a Chemical Waste Management facility in Alabama for incineration.
2. 9,500 gallons of flammable liquids were taken to Solvent Resources in Dayton for disposal.
3. 650 gallons of inorganic liquids were taken to Chem Clear in Cleveland for treatment and disposal.
4. 245 residual drums were disposed of at an Ohio EPA approved disposal site. *815 305*
5. 54 PCB contaminated drums have been disposed of at the Cecos-Car facility in Williamsburg, Ohio.
6. 406 drums of sludges were solidified and sent to Chem Net in Wyandotte, Michigan for disposal.
7. A one to two inch layer of contaminated soil from the area where most of the drums were located has been scraped into two piles and covered with plastic. Composite samples have been taken from each pile for analysis. The analysis results, indicating nature and extent of soil contamination, will enable us to determine the most practical way to dispose of the soil.

Health Effects:

The Ohio Health Department has advised us that they plan to re-interview nearby residents next month.

Well and Surface Water Sampling

U.S. EPA sampled several residential wells as well as ditches in the area. Results should be available in early November. Additional ground and ground-water sampling will also be undertaken in November.

Contact Person:

Marcia Carlson
Superfund Community Relations
Office of Public Affairs
(312) 886-6873

APPENDIX F - COMMUNITY RELATIONS PLAN

COMMUNITY RELATIONS PLAN

Rock Creek Site

Ashtabula County, Ohio

A. BACKGROUND

1. Site Background

The site is located on Hill Street in Rock Creek, Ohio, (Ashtabula County). The site owner, Jack Webb, (who has since filed bankruptcy) used solvents in the manufacture of potting soil. Facilities at the site (located near a number of residences and a school attended by 250 children) include an old grain elevator complex consisting of 3-4 old wooden structures and several old silos. Peat moss was processed at the site with a polymer and other materials. Webb also collected and had remaining on site about 1,250 55 gallon drums.

Numerous citizen complaints were received about odors from the site in 1980. Concerns were also voiced about the threat of fire and/or explosion at the site.

ERT composite sampling of the site in October of 1980 revealed that many drums on site appeared to contain resins, solvents, oils. A groundwater monitoring report in 1980 indicated some contamination. Drums began leaking in 1981, causing chemical runoff to nearby small streams.

On November 6, 1981, \$50,000 in immediate removal funds was allocated for the site to accomplish primarily the removal of flammable liquids. During the next several weeks drum sampling and compatibility testing was undertaken. A severe winter caused freezing of the drums on the site, making removal impossible. In addition, difficulties were encountered in locating disposal sites.

In July, results of an analysis done on a composite sample of all drums left on the site showed 72% xylene and 625 ppm. PCBs.

By summer's end approximately 500 drums and their contents had been removed from the site through work with OEPA and generators.

Sampling was undertaken in September, 1982 to determine which barrels contained PCBs and in what concentrations. Analyses indicated that 9 drums contained PCBs in concentrations greater than 500 ppm; 4 others definitely had PCBs in the 50 to 500 ppm range; 48 other drums could not be proven to have concentrations less than 50 ppm, meaning that they will have to be handled in the same manner as those others in the 50 to 500 ppm range.

On September 20, 1982 a Regional Response Team meeting was convened in Ashtabula and the decision made to make a request to Headquarters for \$106,000 to complete a surface cleanup of the site.

2. Community Concern

Citizens in Ashtabula county have a high degree of interest in and experience with hazardous waste issues. (Raser Tannery, Laskin/Poplar Oil, Field's Brook New Lyme landfill all were or are located there.) Media coverage of hazardous waste issues has been extensive.

Citizens in the Rock Creek area are extremely concerned about what they perceive to be foot dragging on the part of U.S. EPA in cleaning up the site. Also, several recent events have heightened the level of citizen concern.

On August 30, a pile of some 30 drums was found approximately 500-600 yards from the Rock Creek site. During the initial investigation by the Sheriff's Department, a deputy experienced eye irritation from vapors and was treated and later released from a local hospital.

On September 12, eight people that live near the site became ill with flu-like symptoms and went to the hospital. They blamed the illness on fumes from the new site. State and local officials were on the scene investigating and congressional and media interest in the entire Rock Creek situation has reached a new high.

During the week of September 13, a group of angry residents stopped the OSC and demanded that a meeting be held with U.S. EPA officials.

(The Community Relations Coordinator had suggested to Joe Fredle (OSC) several days earlier that as soon as we had the Rock Creek PCB drum analysis back and a determination had been made as to our course of action and a response received from Headquarters, it would be a good idea to arrange an informal meeting with residents to explain where we stood.)

A meeting was arranged in the local fire house with residents the evening of September 20. Over 100 residents attended, together with local officials, including the Mayor, several Cleveland television stations and local press.

U.S. EPA staff explained to residents that the remaining \$35,000 left from the original \$50,000 emergency removal allocation would be used immediately to begin to remove the PCB contaminated materials. It was also explained that an emergency funding request had been sent in to Headquarters that same day to complete a surface cleanup. Although citizens were pleased to hear that news, they openly expressed frustration with U.S. EPA and vowed not to "end their fight" until contaminated soil, the new 30 drums, health questions, and additional information on precise chemicals on the site were resolved to their satisfaction.

This plan is based upon receiving the \$106,000 additional requested. (Should Headquarters turn us down, removal of the PCB materials should be accomplished within 3 weeks, but we can expect further citizen outrage and adverse media attention because of the incomplete cleanup.)

3. Key Issues

B. OBJECTIVES OF THE COMMUNITY RELATIONS PROGRAM

1. General Objectives

- Complete our cleanup activity at the site without disruption

- Regain what appears to be some of the agency's lost credibility in the Ashtabula community
- At the same time, try to educate local residents about the Superfund program and its limitations so that their expectations are more realistic.

2. Specific Objectives

- Make certain that key activist citizens are kept briefed on site progress, major events and new developments. The Community Relations Coordinator can do this by telephone from Chicago.
- Try to ensure that all interested local officials are also kept informed on a regular basis and none feel slighted because of our actions.

C. COMMUNITY RELATIONS ACTIVITIES TO BE USED TO MEET OBJECTIVES

<u>Date(s)</u>	<u>Activities</u>	<u>Objective</u>	<u>Staff</u>	<u>Workhours</u>
9/20	1. Meeting with State and local officials (RRT meeting)	Developed consensus on course of action to be taken.	R. Bowden Joe Fredle M. Carlson	24 12 24
	2. Press Releases		R. Hartian	4
		Announcement if and when we receive Headquarters approval and work is to begin. (Be responsive to press as calls are received.)		
	* Represents workhours for non-EPA staff.			
	3. Fact Sheet	A fact sheet covering our proposed action during the anticipated 4-6 week cleanup should be prepared and arranged for distribution through local citizens. (I suggest this because recent press accounts in the Ashtabula press have provided some incorrect information about Superfund and this is one way to ensure citizens get accurate information about the cleanup.)	M. Carlson	4-5
	4. Briefings	Brief key citizens and local officials at least weekly, upon receipt of updates by OSC.		
	5. Public Meetings	Try to avoid large public meetings if at all possible. Additionally, large, public meeting such as the one held 9/20 would probably just serve to intensify existing community conflicts.		

6. Site Tours

Determine local citizen and media interest at conclusion of cleanup.

* Represents workhours for non-EPA staff.

D. KEY CONTACTS LIST

<u>Name</u>	<u>Affiliation</u>	<u>Phone Numbers</u>
Robert Bowden	U.S. EPA, Spill Response	353-2072
Joe Fredle	U.S. EPA, EDO (OSC)	
Peter McCumiskey	U.S. EPA, CDC Liaison, Region V	
Greg Kulma	U.S. EPA, Chicago (OSC for any Remedial Action)	886-6144
Harold Christian	County Commissioner	
Peter Jaracci	County Commissioner	
Al Mackay	County Commissioner	
Mary Puchein	Activist Citizen--Councilwoman	
Roger Hannah	OEPA, DHMM, OEPA, Columbus	
Diane Thompson	Activist Citizen--Councilwoman	
Rush & Carol Bevins	2732 Jefferson (Citizens)	
Robert Schultz	Councilman	
Walter Brown	Mayor	
Kenneth Brown	Councilman	
Chief Laverne Goodge	Morgan Hose V.F.D.	
Chief Edward C. Andrus	Ashtabula County Disaster Services Advisory Board Chairman	
Robert Indian	Ohio Dept. of Health	
Charles Hart	Ashtabula County Health Dept.	
Dennis B. Eckart	U.S. Congressman	
J. William Stanton	U.S. Congressman	

MEDIA

Bonna Savarise	Ashtabula Star- Beacon	
Dana Christie	WFUN Radio, News Director	Non-responsive

APPENDIX G - SITE SAFETY PLANS



ecology and environment, inc.

CHICAGO OFFICE BUILDING 1, SUITE #501, 10400 WEST HIGGINS ROAD, ROSEMONT, ILLINOIS 60018, TEL. 312-635-0500

International Specialists in the Environmental Sciences

Field Information Sheet

IV. Site Entry Procedures:

Team Size: 3

Station Designation (Name Responsibility) Sample Procurement Team

Special Instructions: Personnel protection will consist of all level "C" protective equipment. The E&E personnel will maintain the log and the contracting personnel will take the samples.

V. Emergency Precautions:

Health Hazards: low

Evacuation of Nearby People: Yes No X

If Yes, How Large an Area? _____

Acute Exposure Symptoms (if known): _____

First Aid Instructions for above Symptoms: _____

VI. Emergency Information Sources:

	Name	Town	Phone	Notified Yes No
Fire	Rock Creek Fire Dept	Rock Creek	563-3333	
Police	Rock Creek P.D.	Rock Creek	576-4901	
Ambulance	Rock Creek Fire Dept	Rock Creek	576-6600	
Hospital	Ashtabula General	Ashtabula	998-3111	
Airport	Ashtabula County AP	Ashtabula	275-3821	
Heliport	Ashtabula County AP	Ashtabula	275-3821	
EPA Contact	Joe Fredle	Westlake	835-5200	
Explosive Unit				
List Other Resources				

VII. Emergency Telephone No.:

E & E Regional Office: (312) 635-6560

E & E NPMO Emergency Answering Service : (716) 882-2804, Pager No. 881-8151

Dr. Harbison:

TAT Leaders Home Phone Number: Non-responsive

Other: Safety Manager (312) 824-2979

VIII. Communications:

Nearest Telephone: radiotelephone

Communications Used on Sites: same as above

Safety Plan
Technical Assistance Team
Region V

-
- I.
- A. Incident Information: See attached Initial Report Sheet
 - B. Material Information: See attached Chemical Evaluation Sheet(s)
 - C. Incident/Material Information Reliability: Good Fair Poor
 - D. Background Information: Extensive Minimal
 - E. Overall Hazard: High Moderate Low Unknown
-

II. A. Incident/Site Description

- 1. Area Affected: 300 feet by 150 feet
 - 2. Surrounding Population: residential area east of site
 - 3. Building(s): see attached map
 - 4. Topography: flat
 - 5. Site Plan and Site Sketch Attached: Yes No
- B. Comments: most of the drums requiring sampling are outside the buildings at the site
-
- C. Site Entry Procedures: See attached Field Information Sheet
 - D. Emergency Precautions: See attached Field Information Sheet
 - E. Emergency Information/Telephone/Communications: See attached Field Information Sheet
-

III. Personnel Protection

Level of Protective Clothing: A B C D

Was this Subsequently Downgraded?: Yes No

If Yes, Explain:

List Specific Protective Clothing Required:

- 1. full face mask
- 2. disp suit
- 3. face shield
- 4. hard hat
- 5. steel toed shoes
- 6. organic canist.
- 7. rubber boots
- 8. disp boots

Field Monitoring Equipment and Materials Required:

- 1. draeger tubes
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Decontamination Procedures:

Hotline Location: road north of facility

- PDS Stations:
- 1. remove disp clothing
 - 2. wash hands
 - 3.
 - 4.
 - 5.
 - 6.
 - 7.

List Equipment, Materials, and Level of Protection Required:

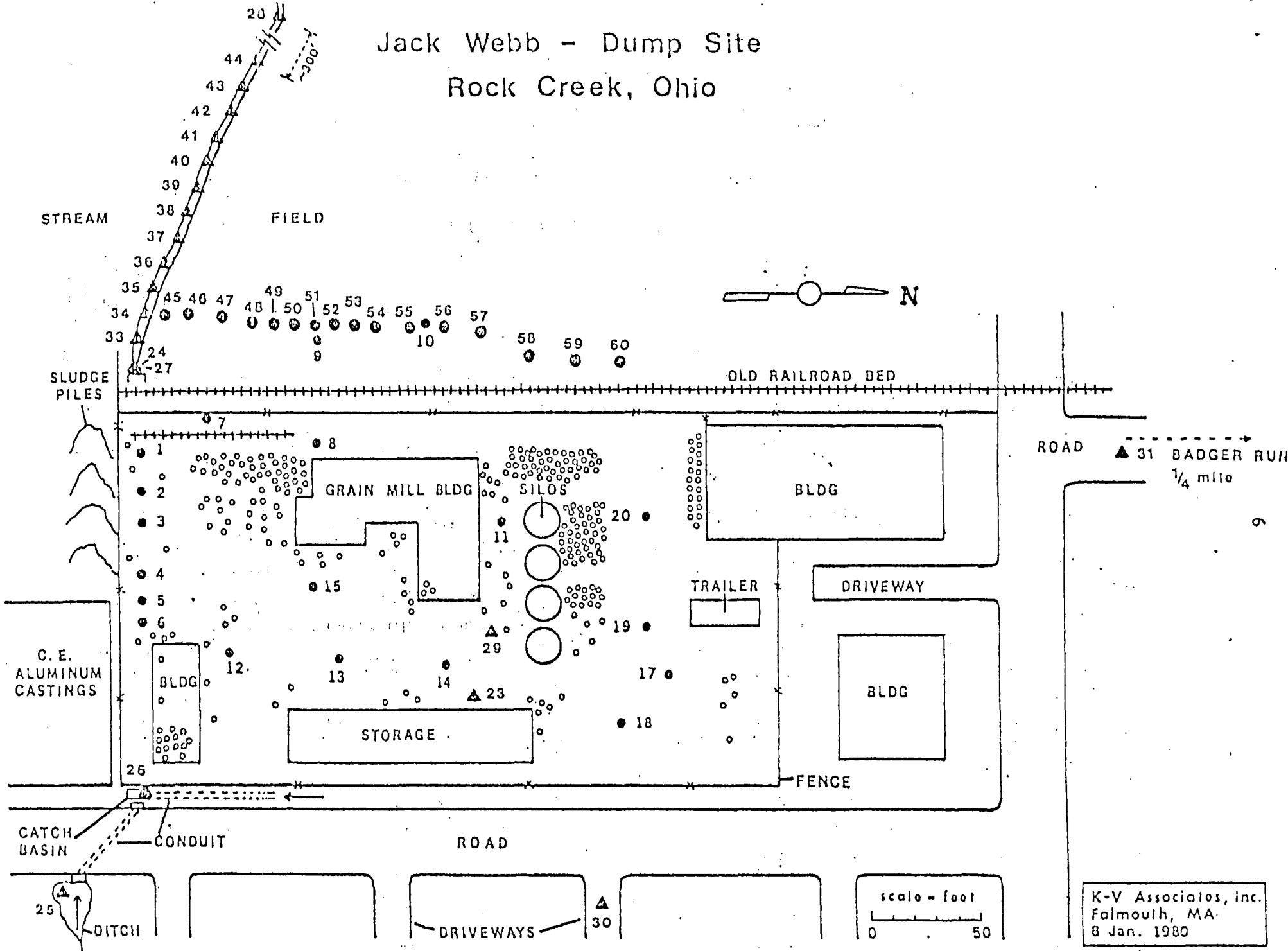
- 1. plastic bags
- 2. tub with soap
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Prepared By: _____

Date Prepared: _____

SURFACE AND GROUNDWATER SAMPLING SITES

Jack Webb - Dump Site
Rock Creek, Ohio



Chesapeake Inter-Office Communication

TO: Don Schwaderer, Senior Deputy Director

DATE: 1/5/81

FROM: Ken M. Harsh, Assistant Chief, ER

SUBJECT: Rock Creek Samples

The GC-MS sample report (composite of 76 drums taken 10-12-80) shows around 130 - 200 individual compounds, most of which are substituted hydrocarbons, aromatics, ketones, alcohols, polynuclear aromatics, hydrocarbons, nitrogenous chlorinated and sulfur substituted compounds.

Some of the compounds have low flash points, and are experimental carcinogenic or neoplastic agents. Most are not highly toxic, but some of the nitrogenous and chlorinated compounds (5-8) are fairly toxic ($\sim 100 \text{ mg/kg LD}_{50}$, oral rat). Tabulating results of compounds are as follows: (See following pages for largest compounds)

1. Polycyclic or polynuclear aromatics	31
2. Substituted or straight chain Hydrocarbon	27
3. Miscellaneous	15
4. Alcohols	14
5. Aromatic	13
6. Amine	12
7. Cyclic or substituted cyclic	9
8. Chlorinated	4
9. Oxygen containing + ketone	5

Based upon an approximate quantification standard (D_K Anthracene) which may differ from actual concentration as much as 500% following are the compounds in highest concentration at Rock Creek based upon a composite of 76 drums taken by Jim Irwin, Mike Dalton and Ken Harsh.

<u>> 1% (10,000 ppm)</u>	<u>ppm</u>	<u>%</u>	<u>f.p. F</u>	<u>(LD₅₀ oral</u>
1. 1-Ethenyl-3-methylene cyclopentene	35549	3.55		
2. 6-nitro 2-picoline	22800	2.28	102	790
3. 2-Propen-1-amine	15604	1.56	20	106
4. 4-Methyl 2-pentanone	14132	1.4		
5. 2-Ethoxy -ethanol acetate	9438	0.9		

> 1000 ppm .1%

6. Acetic Acid, Butylester	8613	.86	72	14000
7. Trichlorethane	7865	.78	35	1140
8. Tetrachloroethene	5130	.51	-	200
9. Trimethyloxirane	5041	.50	-	-
10. 2-Propyl 1-Heptanol	4220	.42	-	6730

	<u>PPM</u>	<u>%</u>	<u>f.p.</u>	<u>F</u>	<u>mg/kg (LD₅₀) oral rat</u>
11. C ₁₂ H ₈	3145	.31	-	-	-
12. Benzoic Acid, methyl ester	3140	.31	-	-	-
13. Cyclohexane	3083	.31	4.6 ms		1297
14. C ₁₂ H ₈	2977	-29	-	-	-
15. Anthracene	1403	-14	250		Car
16. 2-Hexanone	1397	-14	95		2590
17. Decane	1288	-13	115		-
18. 2-Methyl Naphthalene	1104	.11	-		High?
19. Trichlorethane & Tetrachlorethane	1032	.10	-		1140/200
20. 1,2-Dihydro-acenaphthylene	1010	.1	-		-
 <u>> 500 ppm 0.05%</u>					
21. Dibenzofuran (diphenyleneoxide)	828	.08	-	-	-
22. (1-methylethyl) Benzene	784	.08	-	-	-
23. Heptadecane	772	.08	-	-	-
24. 2-propyl-Heptanol	603	.06	-		6730
25. 4-methyl Nonane	594	.06	-	-	-
26. Phenol	588	.06	175		414
27. 4,5 Dihydro-2,4-Dimethyl 1-H-Imidazole	583	.06	-	-	-
28. 1-Chloro-2-methyl benzene	574	.06	126		-
 <u>> 250 ppm .025%</u>					
29. 1-Ethyl-3methyl benzene	487	.05	-	-	-
30. Fluoranthene	457	.05	-	-	-
31. 2-methyl naphthalene	427	.04	-		High
32. Benzothiophene	380	.04	-		High?
33. 1,1 -Biphenyl	366	.04	235		3280
34. Pentacosane	360	.04	-	-	-
35. Ethylcyclohexane	338	.03	95		-
36. Pyrene	304	.03	-		Neo
37. 2-6-Dimethylnonane	269	.03	-	-	-
38. 2,3-Dimethylpentane	266	.03	20		Med
39. 1,2,4-Trimethyl Benzene	254	.03	-		5000
 <u>> 100 ppm .01%</u>					
40. 9-H Fluorene	235	.02	-		Neo
41. 2-Cyclohexyldecane	222	.02	-	-	-
42. Phanthrene	166	.02	-		700, Car
43. 1-8 Dimethyl Naphthalene	166	.02	-	-	-
44. 3-Ethyl 2-methyl heptane	166	.02	-	-	-
45. Heneicosane	149	.01	-	-	-
46. 4,8-Dimethylnonanol	145	.01	-	-	-

		PPM	%	f.p. F	(LD ₅₀) oral ra ng/kg
>100 ppm	.01%				
47.	6-methylheptyl ester 2-acrylic acid	136	.01	-	-
48.	2,6-Dimethyl Naphthalene	114	.01	-	-
49.	Isoquinoline	103	.01	-	350
50.	1-propenyl cyclohexane	100	.01	-	-

These results were what I expected based upon visual observations while sampling most of the drums are resins, rubber resins, solvents, oils, paint solvents, with some odoriferous sulfur/nitrogenated compounds.

Most of the drums contain compounds which are more of a fire hazard than a severe toxicological hazard. There are some carcinogenic, neoplastic materials on site but nothing of pesticidal origin.

No PCB's at concentrations over 10 ppm were detected. This is of course does not preclude their presence at very minute levels or in some of the drums not included in this representative random sample.

KMH/sk

cc: Lynn Clark, NEDO, OLPC
Kenneth A. Schultz, Chief, ER
Mike Shapiro, Legal
Al Franks, PIC
Jim Irwin, NEDO, ER
Mike Dalton, CO, ER

EPA PROJECT
ECOLOGY AND ENVIRONMENT, INC.
MEMORANDUM: REGION V

COST CENTER EP151-5

TO: Joe Fredle

FROM: Technical Assistance Team Region V

VIA: Scott McCone

SUBJECT: Revised Site Safety Plan for Rock Creek drum removal

DATE: February 24, 1982

COMMENTS:

Enclosed is the revised Site Safety Plan for the drum removal operation at the Old Mill Site in Rock Creek, Ohio. If you have any questions or would like to make changes on it please feel free to do so or contact me.

Also, if you want a hazard evaluation sheet filled out for each chemical let me know. However if you do, please send a list of those chemicals.

Ken Krueger

Ken Krueger

Safety Plan
Technical Assistance Team
Region V

-
- I.
- A. Incident Information: See attached Initial Report Sheet
 - B. Material Information: See attached Chemical Evaluation Sheet(s)
 - C. Incident/Material Information Reliability: Good Fair Poor
 - D. Background Information: Extensive Minimal
 - E. Overall Hazard: High Moderate Low Unknown
-

II. A. Incident/Site Description

- 1. Area Affected: 300 feet by 150 feet
 - 2. Surrounding Population: Residential area in rural countryside
 - 3. Building(s): See attached map
 - 4. Topography: Flat
 - 5. Site Plan and Site Sketch Attached: Yes No
 - X. Comments: Only those vehicles removing drums or its contents will be allowed on site. They will enter from north or east roads only. Other authorized vehicles will park at perimeter of site only.
 - C. Site Entry Procedures: See attached Field Information Sheet
 - D. Emergency Precautions: See attached Field Information Sheet
 - E. Emergency Information/Telephone/Communications: See attached Field Information Sheet
-

III. Personnel Protection

Level of Protective Clothing: A. B. C. D.

Was this Subsequently Downgraded?: Yes No

If Yes, Explain:

List Specific Protective Clothing Required:

- 1. Full face mask
- 2. Disp. suit
- 3. Face shield
- 4. Hard hat
- 5. Steel toed shoes
- 6. Organic canist.
- 7. Rubber boots
- 8. Disp. boot

Field Monitoring Equipment and Materials Required:

- 1. HNU meter
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Decontamination Procedures:

Hotline Location: Bordering roads east and north of facility

PDS Stations: 1. Remove disp. clothing 2. Wash hands 3.
4. 5. 6. 7.

List Equipment, Materials, and Level of Protection Required:

- 1. Level "C"
- 2. Camera
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Prepared By: Ken Krueger

Date Prepared: February 24, 1982



ecology and environment, inc.

O'HARE OFFICE BUILDING 1, SUITE #501, 10400 WEST HIGGINS ROAD, ROSEMONT, ILLINOIS 60018, TEL. 312-635-6560

International Specialists in the Environmental Sciences

Field Information Sheet

IV. Site Entry Procedures:

Team Size: 1

Station Designation (Name Responsibility) _____

Monitor Drum Removal _____

Bulking of Drum Contents _____

Special Instructions: Personnel protection will consist of all level "C" protective equipment. Ecology and Environment personnel will maintain log, daily cercla, contractors, cost, and monitor clean-up.

V. Emergency Precautions:

Health Hazards: low

Evacuation of Nearby People: Yes No X

If Yes, How Large an Area? _____

Acute Exposure Symptoms (if known): _____

First Aid Instructions for above Symptoms: _____

VI. Emergency Information Sources:

	Name	Town	Phone	Notified Yes No
Fire	Rock Creek Fire Dept.	Rock Creek	563-3333	
Police	Rock Creek Police Department	Rock Creek	576-4901	
Ambulance	Rock Creek Fire Department	Rock Creek	576-5500	
Hospital	Ashtabula General	Ashtabula	998-3111	
Airport	Ashtabula County A.P.	Ashtabula	275-3821	
Heliport	Ashtabula County A.P.	Ashtabula	275-3821	
EPA Contact	Joe Fredle	Westlake	835-5200	
Explosive Unit				
List Other Resources				

VII. Emergency Telephone No.:

E & E Regional Office: (312) 635-6560

E & E NPMO Emergency Answering Service : (716) 882-2804, Pager No. 881-8151
Dr. Harbison: _____

TAT Leaders Home Phone Number: Non-Responsive _____

Other: Safety Manager (312) 824-2979

VIII. Communications:

Nearest Telephone: Rock Creek

Communications Used on Sites: _____

10X3

Site Safety Plan (^{Added to}
^{E&E Plan})
OLD MILL SITE
Rock Creek, Ohio

- A. General:

- 1) There will be no eating, drinking or smoking on the site.
- 2) All personnel must pass through the DECON area (mandatory) to enter the site.
- 3) All visitors entering the site must log in with the OSC or his representative prior to entering the site.
- 4) All visitors entering the site shall read and become familiar with this safety plan.
- 5) All on site personnel shall remove all outer clothing in DECON AREA.
- 6) All tools/equipment shall be spark proof, explosion resistant and/or grounded, where practical.
- 7) Fire extinguishers are ONLY for personnel/or equipment fires.
- 8) First aid kit is located in the DECON AREA, major abrasions and/or exposures will require medical attention at the Ashtabula Hospital.
- 9) Morning safety meetings will be conducted to discuss safety procedures for the day's planned operations.
- 10) Personnel wearing respirators shall have no facial hair.
- 11) Site evacuation signal will be 2 (30sec duration) car horn blasts.

B. Respiratory Protection

- 1. This site has been designated for respirator use (with organic vapor cartridge). Level of protection based on extensive prior air monitoring (HNU, OVA and carbon tubes).
- 2. Contractor / Government and Visitors shall be enrolled in a medical monitoring program prior to site entry and shall have a written respiratory protection program.
- 3. All site personnel must show proof of and be physically able to wear respirators.
- 4. HNU monitoring will be performed in work areas.

C. Personnel Protection

~~A~~. Contractor (Drum Handling)

- 1. Steel toed rubber boots
- * 2. Tyvek inner suit
- 3. Rain gear type outer suit
- 4. Respirator w/organic vapor cartridge **
- 5. Hard hat
- 6. Eye protection
- * 7. Gloves

* Materials will be disposed of upon heavy contamination
** Cartridges shall be changed daily

~~A~~. Contractor / Other (Non-drum handling)

- 1. Steel toed boots (rubber or outer covering)
- 2. Saranex[®]/Tyvek[®]/Rain gear type outer suit
- 3. Respirator w/organic vapor cartridge
- 4. Gloves/rubber
- 5. Eye protection
- * 6. Hard hat
- * Optional

(cont.)

- D. Safety Designee

- 1. Safety designee shall monitor contractor operations.
- 2. Safety designee shall escort all onsite visitors.
- 3. Safety designee shall perform and log air monitoring.
- 4. Safety designee shall have a person stationed at entrance area to site.
- 5. Safety designee shall conduct/participate in morning safety meetings
- 6. Safety designee shall notify OSC immediately of any violations or unsafe actions.

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Field Information Sheet ROCK CREEK (OLD MILL SITE)

IV. Site Entry Procedures:

Team Size: Varies (1-4)

Station Designation (Name Responsibility) _____

Special Instructions: Monitor contractor performance,
conduct air monitoring using OVA, HNU, air pumps.
Sample water on and near site.

V. Emergency Precautions:

Health Hazards: Organics, PCB's (waste in drums)

Excavation of Nearby People: Yes No X
If yes, How Large an Area? _____

Acute Exposure Symptoms (if known): See hazard sheet

First Aid Instructions for above Symptoms: Remove from area.

VI. Emergency Information Sources:

	Name	Town	Phone (216)	Notified Yes	No
Fire	Rock Creek Fire Dept.	Rock Creek	563-3333	x	
Police	Rock Creek Police Dept	Rock Creek	576-4901	x	
Ambulance	Rock Creek Fire Dept.	Rock Creek	576-6600		x
Hospital	Ashtabula General	Ashtabula	998-3111		x
Airport	Ashtabula County	Ashtabula	275-3821		x
Heliport	Ashtabula County	Ashtabula	275-3821		x
EPA Contact	Joe Fredle	Westlake	835-5200	x	
Explosive Unit	Poison Control				
List Other Resources	Center-Acad. of Medicine	Cleveland	231-4455		x

VII. Emergency Telephone No.:

E & E Regional Office: (312) 635-6560

E & E NPMO Emergency Answering Services: (716) 882-2804,
881-8151-Pager No.

Dr. Harbison: (501) 370-8263

TAT Leaders Home Phone Number: Non-responsive

Other: Safety Manager (312) 824-2979

VIII. Communications:

Non-responsive

Nearest Telephone: ROCK CREEK ALUMINUM (563-3487)

Communications Used on Site: Verbal

Prepared By: Sue Ahrendt

Date Prepared: 9/16/82

Safety Plan
Technical Assistance Team
Region V

ROCK CREEK I (OLD MILL SITE)

-
- I.
- A. Incident Information: See attached Initial Report Sheet
 - B. Material Information: See attached Chemical Evaluation Sheet(s)
 - C. Incident/Material Information Reliability: Good Fair Poor
 - D. Background Information: Extensive Minimal
 - E. Overall Hazard: High Moderate Low Unknown
-

II. A. Incident/Site Description

- 1. Area Affected: 300 feet by 150 feet
- 2. Surrounding Population: Residential area east of site/
Industrial south
- 3. Building(s): Several deteriorating buildings on site
- 4. Topography: Flat
- 5. Site Plan and Site Sketch Attached: Yes No

B. Comments: Most drums are outdoors

C. Site Entry Procedures: See attached Field Information Sheet

D. Emergency Precautions: See attached Field Information Sheet

E. Emergency Information/Telephone/Communications: See attached Field Information Sheet

III. Personnel Protection

Level of Protective Clothing: A B C D

Was this Subsequently Downgraded?: Yes No

If Yes, Explain:

List Specific Protective Clothing Required:

- 1. Full Face Mask
- 2. Disp. Suit
- 3. Robertshaw
- 4. Gloves
- 5. Pesticide Organ Steel Toed
- 6. Vapor Cartridge
- 7. Neoprene Boots
- 8. Hard Hat

Field Monitoring Equipment and Materials Required:

- 1. HNU
- 2. OVA
- 3. Air Pump with Combustible Charcoal Tube
- 4. Gas Indicator
- 5.
- 6.
- 7.
- 8.

Decontamination Procedures:

Hotline Location: See site sketch

PDS Stations: 1. Remove disposable clothing, 2. Wash Hands
4. 5. 6. 7.

List Equipment, Materials, and Level of Protection Required:

- 1. Plastic Bags
- 2. Soap/Water
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Prepared By: Sue Ahrendt

Date Prepared: 9/16/82

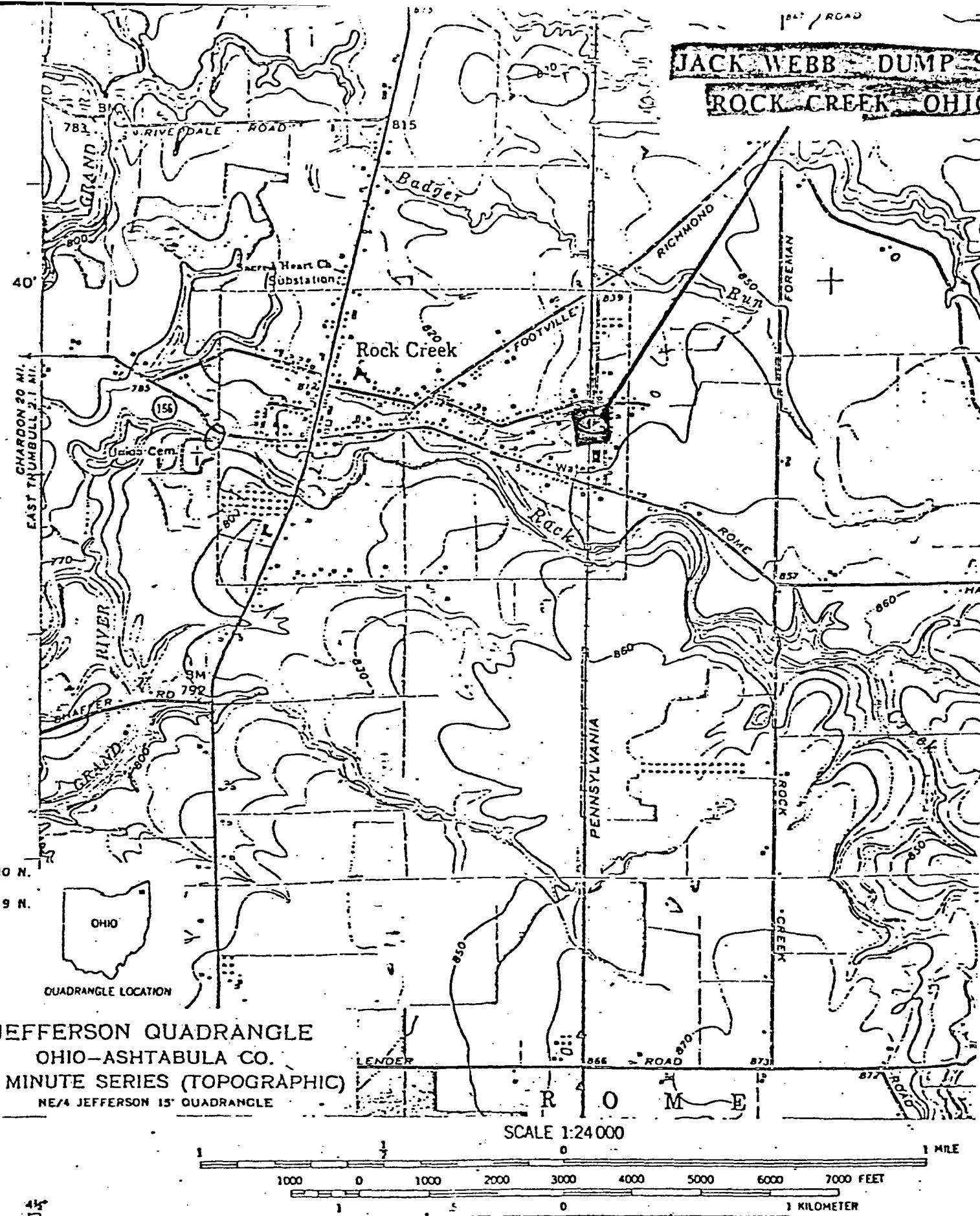


Figure 1. Overview of Rock Creek Site

SURFACE AND GROUNDWATER SAMPLING SITES

Jack Webb - Dump Site
Rock Creek, Ohio

- Escape Routes

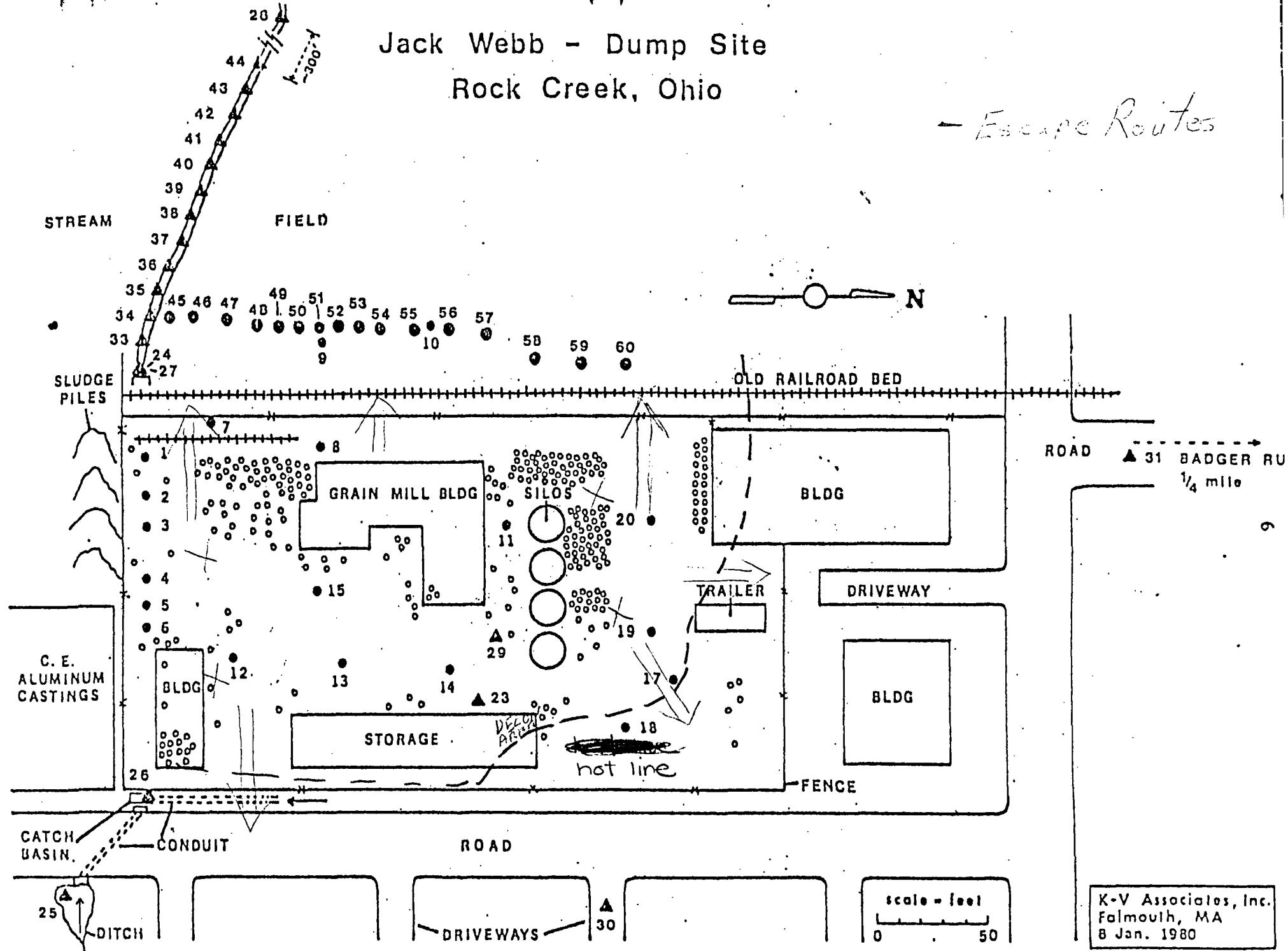


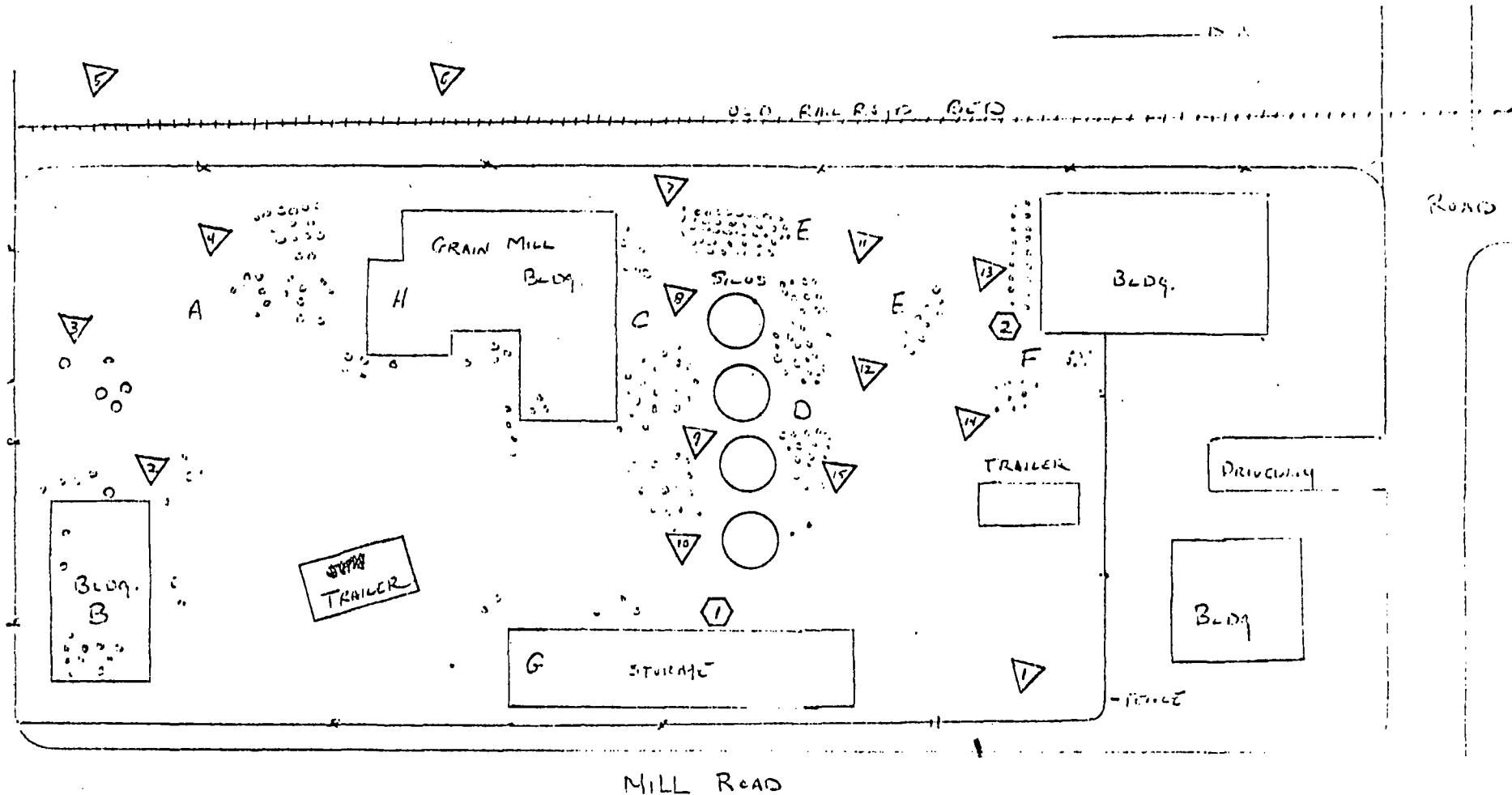
Figure 2. Jack Webb Dump Site

K-V Associates, Inc.
Falmouth, MA
8 Jan. 1980

KET

△ HNU/OVA reading areas

○ AIR SAMPLERS (8 hrs.).



OLD MILL DUMP SITE
ROCK CREEK, OHIO
9/21/82

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ROCK CREEK NEW DRUM SITE Field Information Sheet

IV. Site Entry Procedures:

Team Size: Varies

Station Designation (Name Responsibility) _____

Special Instructions: Monitor contractor performance, conduct magnetometer survey, sample soil and water.

V. Emergency Precautions:

Health Hazards: _____

Excavation of Nearby People: Yes No X
If yes, How Large an Area? _____

Acute Exposure Symptoms (if known): See hazard sheets

First Aid Instructions for above Symptoms: Remove from area.

VI. Emergency Information Sources:

	Name	Town	Phone (216)	Notified Yes	No
Fire	Rock Creek Fire Dept.	Rock Creek	563-3333	x	
Police	Rock Creek Police Dept.	Rock Creek	576-4901	x	
Ambulance	Rock Creek Fire Dept.	Rock Creek	576-6600		x
Hospital	Ashtabula General	Ashtabula	998-3111		x
Airport	Ashtabula County	Ashtabula	275-3821		x
Heliport	Ashtabula County	Ashtabula	275-3821	x	
EPA Contact	Joe Fredle	Westlake	835-5200	x	
Explosive Unit					
List Other Resources	Poison Control Center	Cleveland	1/231-4455		x

VII. Emergency Telephone No.:

E & E Regional Office: (312) 635-6560

E & E NPMO Emergency Answering Services: (716) 882-2804,
881-8151-Pager No.

Dr. Harbison: (501) 370-8263

TAT Leaders Home Phone Number: (312) 639-1858

Other: Safety Manager (312) 824-2979

VIII. Communications:

Non-responsive

Nearest Telephone: Rock Creek Aluminum 563-3487
Communications Used on Site: Verbal

Prepared By: Sue Ahrendt

Date Prepared: 9/16/82

Safety Plan
Technical Assistance Team
Region V
ROCK CREEK II NEW DRUM SITE

-
- I.
- A. Incident Information: See attached Initial Report Sheet
 - B. Material Information: See attached Chemical Evaluation Sheet(s)
 - C. Incident/Material Information Reliability: Good Fair Poor
 - D. Background Information: Extensive Minimal
 - E. Overall Hazard: High Moderate Low Unknown
-

II. A. Incident/Site Description

- 1. Area Affected: _____
 - 2. Surrounding Population: Residential area one block east of site
 - 3. Building(s): _____
 - 4. Topography: Flat
 - 5. Site Plan and Site Sketch Attached: Yes No
- B. Comments: Approximately 30 drums located in an open field. There is a possibility of buried tanks.
-
- C. Site Entry Procedures: See attached Field Information Sheet
 - D. Emergency Precautions: See attached Field Information Sheet
 - E. Emergency Information/Telephone/Communications: See attached Field Information Sheet
-

III. Personnel Protection

Level of Protective Clothing: A B C D

Was this Subsequently Downgraded?: Yes No

If Yes, Explain: _____

List Specific Protective Clothing Required:

- 1. Full Face Resp. 2. Disp. Suit 3. Robertshaw 4. Gloves
- Pesticide Organ. Steel toed
- 5. Vapor Cartridges Neoprene Boots 7. Disp. Boots 8. Hard Hat

Field Monitoring Equipment and Materials Required:

- 1. HNU 2. Air Pump with 3. OVA 4. _____
- Charcoal Tubes
- 5. _____ 6. _____ 7. _____ 8. _____

Decontamination Procedures:

Hotline Location:

PDS Stations: 1. Remove disposable clothing 2. Wash hands 3. _____

4. _____ 5. _____ 6. _____ 7. _____

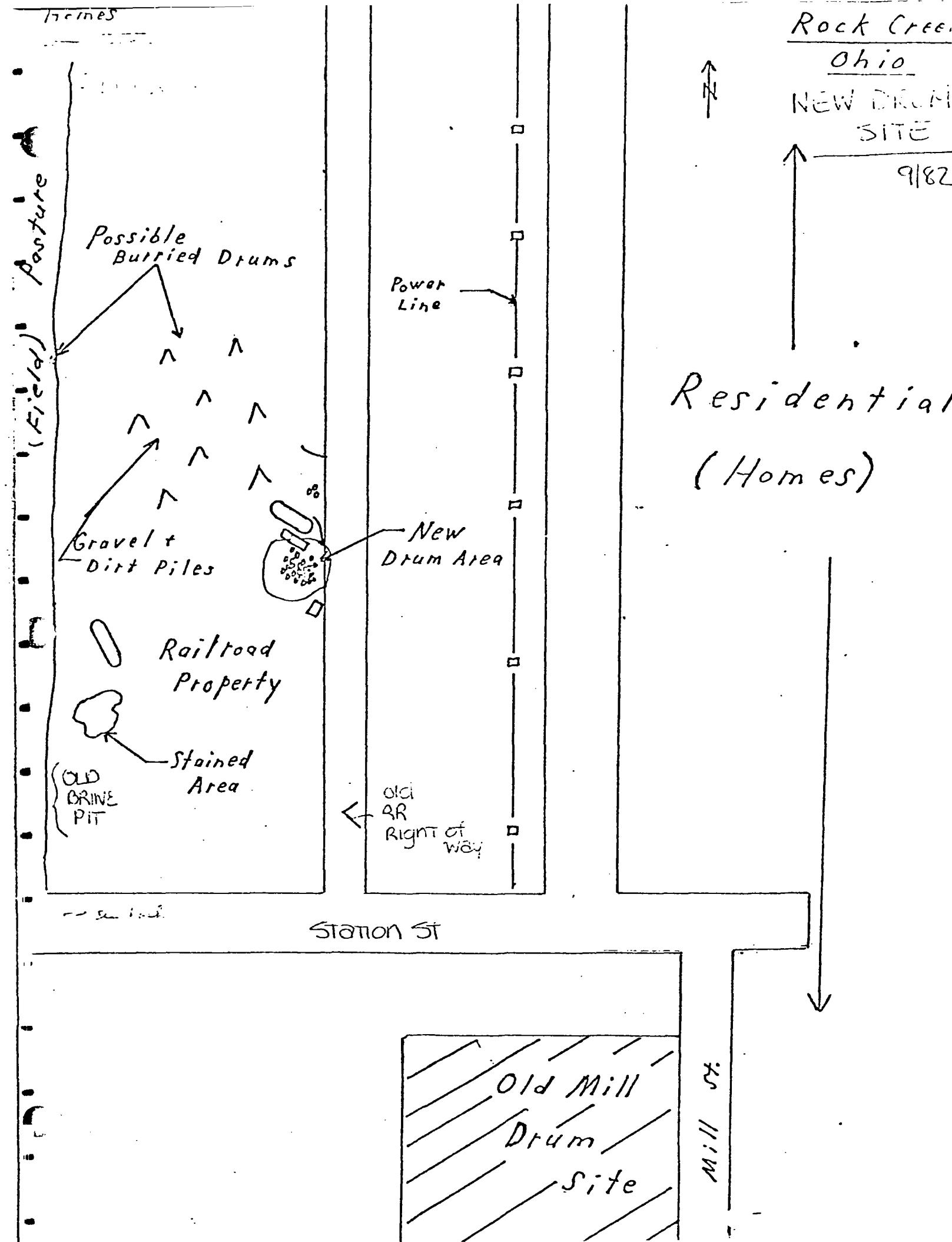
List Equipment, Materials, and Level of Protection Required:

- 1. Plastic Bags 2. Soap / water 3. _____ 4. _____
- 5. _____ 6. _____ 7. _____ 8. _____

Prepared By: Sue Ahrendt

Date Prepared: 9/16/82

Rock Creek
Ohio
NEW DRUM
SITE
9/82





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International Specialists in the Environmental Sciences

HAZARD EVALUATION OF CHEMICALS

5-8207-16

Chemical Name Anthracene (p-naphthalene, green oil)

DOT Name

References consulted (Circle)

HAZMAT Handbook Chris Merk Index Aldrich CRC Toxic Safety Manual

Chemical Properties:

Chemical Formula: C₁₄H₁₀ Molecular Weight: 178.22

Physical State: colorless crystals Solubility: Boiling Point: 345°C

Flash Point 250°F (CC) Vapor Pressure: 1 mm @ 145°C (sublimes) Freezing Point: 217°C

Specific Gravity: 1.24 @ 27°/4° Odor/Odor Threshold: Flammable Limits: lel = 0.6%

Biological Properties:

TLV:

TLC/TLD: Human: Aquatic: Waterfowl:

Dermal Toxicity:

Cleanup Recommendations:

Fight fire with: water, foam, CO₂. Moderate explosion hazard when exposed to flame, Ca(ClO)₂ or chromic acid reacts with oxidizing materials

Health Hazards and Recommendations:

Allergen and mild irritant. Carcinogen of skin, hands, firearms and scrotum and possibly the bladder



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HAZARD EVALUATION OF CHEMICALS

5-8207-16

Chemical Name Dibenzofuran (diphenylene oxide)

DOT Name _____

References consulted (Circle)

HAZMAT Handbook Chris Merk Index Aldrich CRC Toxic Safety Manual

(Sax)

Chemical Properties:

Chemical Formula: C₁₂H₈O Molecular Weight: 168.2

Physical State: Colorless crystals Solubility: Boiling Point: 288 °C

Flash Point: Vapor Pressure: Freezing Point: 87 °C

Specific Gravity: Odor/Odor Threshold: Flammable Limits:

Biological Properties: Unknown

TLV:

TLC/TLD: Human: Aquatic: Waterfowl:

Dermal Toxicity:

Cleanup Recommendations:

an insecticide,

slight fire hazard

Health Hazards and Recommendations:



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HAZARD EVALUATION OF CHEMICALS

5-8207-16

Chemical Name Fluoranthene

DOT Name _____

References consulted (Circle)

HAZMAT Handbook Chris Merk Index Aldrich CRC Toxic Safety Manual

Chemical Properties:

Chemical Formula: <chem>C16H10</chem>	Molecular Weight: 202.24
Physical State: Colorless solid	Solubility: Boiling Point: 367 °C
Flash Point	Vapor Pressure: 0.01 mm @ 20°
Specific Gravity:	Odor/Odor Threshold: Freezing Point: 120 °C

Biological Properties: A polycyclic hydrocarbon found in air pollution studies

TLV:

TLC/TLD: Human: Aquatic: Waterfowl:

Dermal Toxicity:

Cleanup Recommendations:

slight fire hazard when exposed to heat or flame

Health Hazards and Recommendations:



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International Specialists in the Environmental Sciences

HAZARD EVALUATION OF CHEMICALS

5-8207-110

Chemical Name 2 methyl naphthalene

DOT Name

References consulted (Circle)

HAZMAT Handbook Chris Merk Index Aldrich CRC Toxic Safety Manual

Chemical Properties:

Chemical Formula: C₁₀H₇CH₃ Molecular Weight: 142

Physical State: Solid Solubility: sol. in alcohol & ether, insol in H₂O Boiling Point: 242.1 °C

Flash Point Vapor Pressure: Freezing Point: 34.58 °C

Specific Gravity: 1.0058 @ 20/4° Odor/Odor Threshold: Flammable Limits:

Biological Properties: Details Unknown Limited Animal Experiments suggest HIGH Toxicity

TLV:

TLC/TLD: Human: Aquatic: Waterfowl:

Dermal Toxicity:

Cleanup Recommendations:

Health Hazards and Recommendations:



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HAZARD EVALUATION OF CHEMICALS

5-8207-16

Chemical Name Naphthalene (moth flakes, camphor)

DOT Name UN 1334

References consulted (Circle)

HAZMAT Handbook	Chris	Merk Index	Sax	Aldrich	CRC	Toxic Safety Manual
-----------------	-------	------------	-----	---------	-----	---------------------

Chemical Properties:

Chemical Formula:

C10H8

Molecular Weight:

128.16

Physical State:

~~as~~ crystalline flakes

Solubility:

Boiling Point:

217.9 °C

Flash Point

174 °F (cc)

Vapor Pressure:

1 mm @ 52.6°

Freezing Point:

80.1 °C

Specific Gravity:

1.162

Odor/Odor Threshold:

aromatic odor

Flammable Limits:

0.9 % - 5.9 %

Biological Properties:

TLV:

oral LD₅₀ rat = 1780 mg/kg

IP LD₅₀ (mouse) = 150 mg/kg

TLC/TLD:

oral LD₅₀ child = 100 mg/kg

Human:

Aquatic:

Waterfowl:

Dermal Toxicity:

Cleanup Recommendations:

Not fire hazard; reacts with oxidizing materials; reacts
violently with CrO₃. Use water, CO₂ or dry chemical on fire

Health Hazards and Recommendations:

Systemic reactions - nausea, headache, diaphoresis, hematuria,
fever, anemia, liver damage, convulsions and coma.



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HAZARD EVALUATION OF CHEMICALS

TAT CASE NO.

5-8207-16

Chemical Name PCBs (Polychlorinated Biphenyls)

DOT Name UN 2315

References consulted (Circle)

Also PCT
Polychlorinated Terphenyls

HAZMAT Handbook	Chris	Merk Index	Aldrich	CRC	Toxic Safety Manual
-----------------	-------	------------	---------	-----	---------------------

Chemical Properties:

Chemical Formula:	Molecular Weight:		
Physical State:	Solubility:		Boiling Point: 340 - 375 °C
Flash Point	Vapor Pressure:		Freezing Point:
Specific Gravity:	Odor/Odor Threshold:		Flammable Limits:

Biological Properties:

TLV:			
TLC/TLD:	Human:	Aquatic:	Waterfowl:
Dermal Toxicity:			

Cleanup Recommendations:

Slight fire hazard
toxic fumes emitted when heated to decomposition

Health Hazards and Recommendations:

Irritating to skin - rinse with water
chloracne



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HAZARD EVALUATION OF CHEMICALS

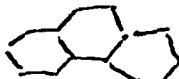
58207-16

Chemical Name phenanthrene.

DOT Name

References consulted (Circle)

HAZMAT Handbook Chris Merk Index Aldrich CRC Toxic Safety Manual



Chemical Properties:

Chemical Formula: C₁₄H₁₀

Molecular Weight:

Physical State:

colorless shiny crystals

Solubility:

insoluble in water

Boiling Point:

340°C

Flash Point

100°F

Vapor Pressure:

Freezing Point:

Specific Gravity:

1.063

Odor/Odor Threshold:

Flammable Limits:

Biological Properties:

TLV:

TLC/TLD:

Human:

Aquatic:

Waterfowl:

Dermal Toxicity:

Cleanup Recommendations:

[Large blank area for cleanup recommendations]

Health Hazards and Recommendations:

Carcinogenic agent.

Toluene, 0.2 mg. per cubic meter in air.



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HAZARD EVALUATION OF CHEMICALS

5-8207-16

5-8201-1

Chemical Name Perchloroethylene (Tetrachloroethylene, ETHYLENE TETRACHLORIDE)

DOT Name UN 1897

References consulted (Circle)

HAZMAT Handbook

Chris

Merk Index

Aldrich

CAS

Toxic Safety Manual

Chemical Properties:

Chemical Formula:

CCl2CCl2

Molecular Weight:

165.85

Physical State:

COLORLESS LIQUID

Solubility:

.0165 lbs./100 lb. water @ 68°F

Boiling Point:

250°F

Flash Point

NOT FLAMMABLE

Vapor Pressure:

Freezing Point:

-8.3°F

Specific Gravity:

1.63

Odor/Odor Threshold:

SWEET ODOR/5ppm

Flammable Limits:

NOT FLAMMABLE

TCL_o (HUMAN) = 230 ppm → SYSTEMIC EFFECTS

INHAL TCL_o (MAN) = 280 ppm FOR 2 HRS → EYE EFFECTS

Biological Properties: INHAL TCL_o (MAN) = 600 ppm FOR ½ HR → CNS EFFECTS

TLV: 100 ppm

TLC/TLD:

Inhal. 280ppm
Human: 2 hours Aquatic:

Waterfowl:

Dermal Toxicity:

NARCOTIC IN HIGH CONC, DEFATTENING ACTION ON SKIN ⇒ DERMATITIS
USE: DRY CLEANING, DEGREASING METALS, SOLVENTS.

Cleanup Recommendations:

Reacts violently with Ba, Be, and Li. Stop discharge, avoid contact with

liquid and vapor. Isolate and remove discharged material. Dangerous when

heated to decomposition, it emits high toxic fumes of chlorides

CONC > 200 ppm ⇒ EYE, NOSE, THROAT IRRITATION

Health Hazards and Recommendations:

Dermatitis, conjunctivitis, headache, dizziness, failure of strength, defective control of muscles, irritability, tremors, and convulsions, paralysis, and coma.

Irritation of respiratory tract, cardiac irregularity, nausea, vomiting, diarrhea, and bloody excrement. Avoid prolonged inhalation, skin contact and oral ingestion

Impaired judgement at vapor conc. above 300 ppm



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HAZARD EVALUATION OF CHEMICALS

5-8207-16

Chemical Name Pyrene (Benzo(def)phenanthrene)

DOT Name

References consulted (Circle)

Sax

Aldrich

CRC

Toxic Safety Manual

Chemical Properties:

Chemical Formula: C₁₆H₁₀ condensed ring hydrocarbon Molecular Weight: 202.24

Physical State: solutions have slight blue color Solubility: sol. in organic solvents Boiling Point: 404 °C

Flash Point 156 °C Vapor Pressure: Freezing Point: 156 °C

Specific Gravity: 1.271 @ 23 °C Odor/Odor Threshold: Flammable Limits:

Biological Properties: an exper nos via dermal route

TLV:

TLC/TLD: Human: Aquatic: Waterfowl:

Dermal Toxicity:

Cleanup Recommendations:

Health Hazards and Recommendations:



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HAZARD EVALUATION OF CHEMICALS

5-8201-1

5-8207-16

Chemical Name Trichloroethane (1,1,1)

DOT Name UN 2831

References consulted (Circle)

HAZMAT Handbook

Chris

Merk Index

Aldrich

Sax
CRC

Toxic Safety Manual

Chemical Properties:

Chemical Formula:

CH_3CCl_3

Molecular Weight:

133.41

Physical State:

COLORLESS LIQUID

Solubility:

0.07 lb./100 lb. water @ 68°F

Boiling Point:

165°F

Flash Point:

NONE

Vapor Pressure:

100mm @ 20-0°

Freezing Point:

-38°F

Specific Gravity:

1.31 @ 20°C

Odor/Odor Threshold:

Sweet Odor

Flammable Limits:

7% - 16%

Biological Properties:

TLV: 350ppm

Inhalation

Pinfish/TLM/Salt Water

TLC/TLD: 2700mg/m³ for 10 min

Aquatic: 75-150ppm

Waterfowl:

Dermal Toxicity:

USE: METAL CLEANING, CLEANING PLASTIC MOLDS.

Cleanup Recommendations:

Dangerous fire hazard if exposed to heat decomposition emits toxic fumes.

Violent reaction with acetone, N_2O_4 , O_2 , O_2 liquid, Na, NaOH, Na-K alloy.

Extinguish fire with dry chemical, carbon dioxide or foam. Isolate and remove discharge material

Health Hazards and Recommendations:

Loss of equilibrium and consciousness, cardiac failure, irritation of nose and

throat, nausea, disturbance to central nervous system and damage to liver



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International Specialists in the Environmental Sciences

HAZARD EVALUATION OF CHEMICALS

1,2-DIMETHYLBENZENE (o-)
1,3-DIMETHYLBENZENE (m-)

5-8207-16

Chemical Name XYLENE (m-, o-, p-) 1,4-DIMETHYLBENZENE (p-)

DOT Name UN 1307

References consulted (Circle)

SAX

HAZMAT Handbook Chris Merk Index Aldrich CRC Toxic Safety Manual

~~USES:~~ INTERMEDIATE FOR DYES & ORGANIC SYNTHESIS, INSECTICIDES,
AVIATION FUEL.

Chemical Properties:

Chemical Formula:

C₆H₄(CH₃)₂

Molecular Weight:

106.2

Physical State:

COLORLESS LIQUID (CLEAR)

Solubility:

INSOL IN WATER / SOL IN AROMOL

Boiling Point:

139°

Flash Point

≤ 29.44

Vapor Pressure:

Freezing Point:

Specific Gravity:

≤ 0.8684

Odor/Odor Threshold:

Flammable Limits:

MP - -47.9°

Biological Properties:

TLV: 100 ppm

ORAL(RAT)

TLC/TLD: 5000 mg/kg

Human:

Aquatic:

Waterfowl:

Dermal Toxicity:

OBTAINED FROM COAL TAR. NARCOTIC IN HIGH CONC.
USED AS SOLVENT, PRODUCTION OF ACIDS.

Cleanup Recommendations:

USE FOAM, CO₂, DRY CHEMICALS TO FIGHT FIRES, ADEQUATE VENTILATION,
CONTAINMENT, PUMP TRUCK, REMOVE CONTAMINATED EARTH,
DANGEROUS IF EXPOSED TO OXIDIZING MATERIALS, FLAME, HEAT.

Health Hazards and Recommendations:

INFLAMMATION OF SKIN & MUCOUS MEMBRANES; IRRITATION OF RESPIRATORY TRACT,
HARD TO BREATH, LACK OF APPETITE, NAUSEA, VOMITING, FATIGUE, HEADACHE, DIZZINESS,
INCORORDINATION, IRRITABILITY, NARCOSES, PARALYSIS. (SPECIAL ATTENTION TO EYES & CNS)
IRRIGATE EYES, WASH CONTAMINATED SKIN. OXYGEN, IF NEEDED.
INCLUDING, BLOOD COUNT, LIVER & KIDNEY.

DRAFT

FIT/TAT EMERGENCY MED-TOX PLAN

FOREWORD

The purpose of this document is to explain the response mechanism within E & E for dealing with accidental injuries or chemical exposures which may occur in the course of FIT or TAT work. All FIT and TAT personnel are responsible for following the provisions of this plan as part of the Corporate Health and Safety Program. In addition, each regional FIT and TAT office will draw up emergency telephone contact lists where indicated in this plan and disseminate them to their team members. A copy of this plan should accompany each team when working in the field.

EMERGENCY MED-TOX SYSTEM

The emergency MED-TOX system consists of the following response elements:

- (1) Field Team
- (2) Local FIT/TAT Office
- (3) FIT/TAT NPMO
- (4) E & E Corporate Headquarters
- (5) MED-TOX Hotline
- (6) Health and Safety Advisory Committee

Figure 1 summarizes the activation process for this system.

EMERGENCY ACTIONS

A. Types of Emergencies

Emergencies that may occur during FIT/TAT work include physical injury caused by motor vehicle accidents, falls, fires, etc. and chemical exposures caused by splashes, reactions, etc. Such incidents may involve one person or many on the FIT/TAT team and could potentially involve the public offsite. For example, a fire could generate a sudden cloud or toxic vapors or gases.

The level of mobilization of the corporate-wide MED-TOX system will depend on the severity of the injury or exposure. For example, a sprained ankle does not have to be reported to the NPMO until it is convenient during normal business hours. Physical injuries are considered severe and thereby require immediate reporting when they result in:

- o Death
- o Loss of consciousness

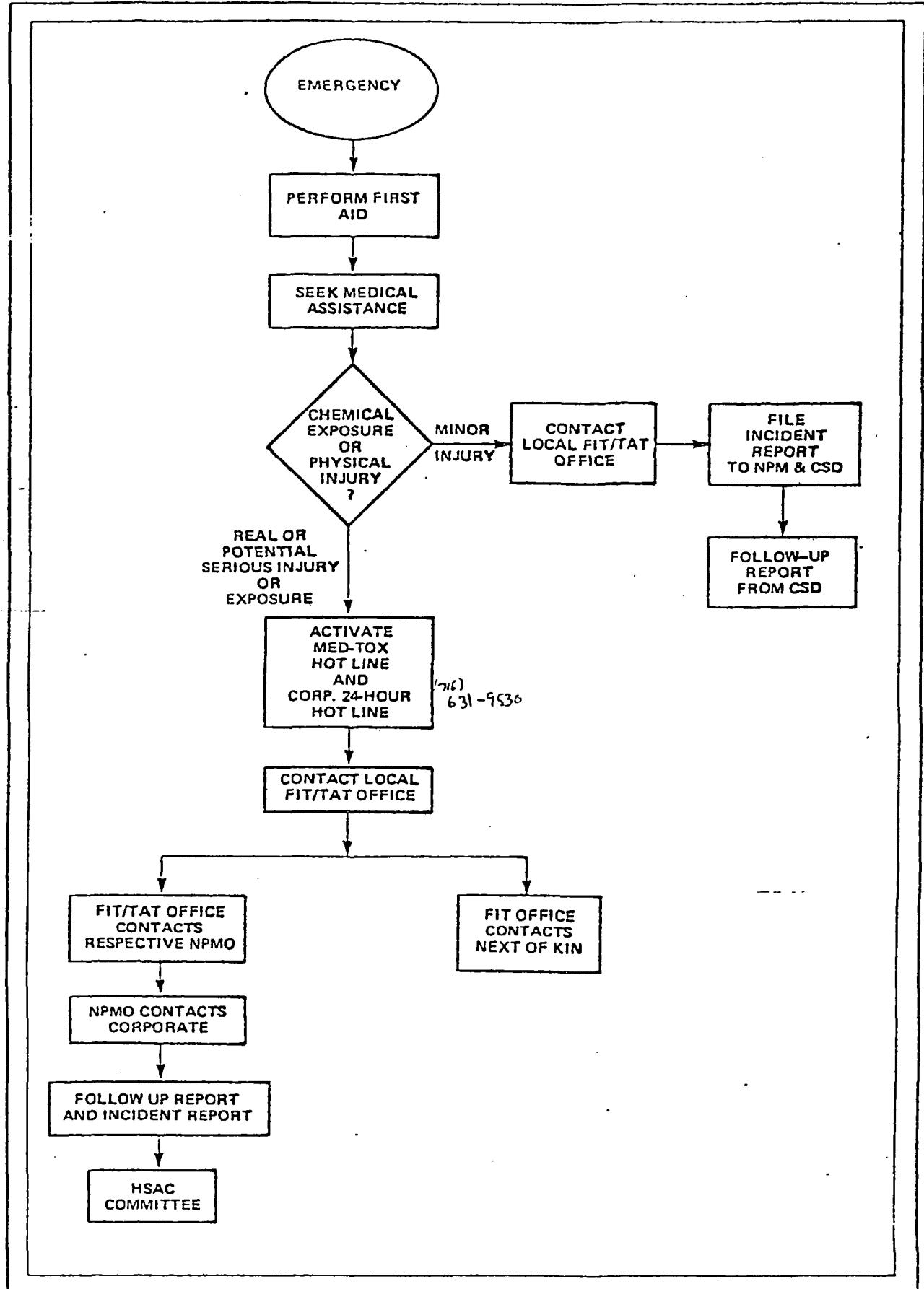


Figure 1 EMERGENCY MED-TOX SYSTEM

- o Medical treatment other than first aid

Poison oak and ivy exposures can be reported through the routine system if they do not require medical treatment. Chemical exposures should all be reported through the emergency system. However, any chemical exposure will be reported to the NPMO as soon as possible after it occurs. The NPMO will then decide whether it is necessary to pass the report on to corporate as an emergency or handle it through routine reporting procedures.

B. Responsibilities

(1) The FIT/TAT project site leader at the work site has prime responsibility for activating the emergency MED-TOX system on site. If he or she is unable to do so, the responsibility will follow the order predetermined in the Site Safety Plan beginning with the Site Safety Officer. This person is responsible for:

- (a) Initiating first aid (It may first be necessary to evacuate the person from the site if he is in imminent danger. Follow standard first aid procedure.) Normally the Site Safety Coordinator will be available to begin emergency first aid.
- (b) Obtaining medical assistance by either transporting the victim to a hospital or medical center as determined under the Site Safety Plan, or obtaining an ambulance. The problem of contaminating medical assistance personnel must be considered.
- (c) Activating the MED-TOX System in case of a chemical exposure or potential exposure.
- (d) Contacting the local FIT/TAT office

If no one is available to help, the project team leader will carry out the first two responsibilities first with the remaining two to be completed as soon as practical. All four actions may be carried out simultaneously if help is available.

(2) The FIT/TAT Leader at the local office is the prime contact for the project site leader. If he is unavailable, the responsibility follows the following line:

- (a) FIT/TAT Leader
- (b) Assistant FIT/TAT Leader
- (c) Regional Safety Coordinator

The office contact is responsible for:

- (a) Contacting the injured/exposed party's next-of-kin, with programmed information.
 - (b) Contacting the NPMO with information updates.
 - (c) Setting up a command post in the office to monitor the situation and provide assistance as needed to the field team. The severity of the accident will indicate the degree to which the command post is operated.
 - (d) Acting as a clearing center for information on the accident, status of individual, background on site both to EPA and within the project.
- (3) The NPMO will provide any assistance required by the Regional office such as information on chemicals. The line of responsibility in the NPMO follows this line:
- (a) FIT
 - i) Assistant National Project Manager for Training and Safety (For FIT)
 - ii) Assistant National Project Manager for Technical Performance (For FIT)
 - (b) TAT
 - i) National Project Manager
 - (c) Corporate Safety Director
- The NPMO is responsible for:
- (a) Contacting corporate headquarters
 - (b) Contacting EPA headquarters as necessary
 - (c) Serving as a clearinghouse for information for the regional office
 - (d) Coordinating preparation of followup reports
- (4) E & E corporate headquarters will monitor incidents and bring the resources of the corporation to bear as needed. The callout line is:
- (a) TAT NPMO 24-hour call line
 - (b) Corporate Safety Director

MED-TOX

Hot-Line

- A. The purpose of the MED-TOX Hot-Line is to provide the physician attending an E & E employee who is exposed or injured:
 - (1) Toxicological information on the chemicals that may be involved
 - (2) Quick access to the individual's medical records for use in treating the person.
 - (3) A Communications Channel to Corporate Headquarters for further assistance.
- B. The MED-TOX System is activated by the project site leader or other senior team member at the site of the exposure or injury A.S.A.P. This person calls

(501) 370-8263

which is a 24-hour line to an answering service. The answering service will contact one of three toxicologists in the MED-TOX System. (Drs. Raymond Harbison, Richard Freeman, or Cramer.) One of these Toxicologists will contact you.

- C. When the first call is made to MED-TOX, give the person answering the following information:
 - (1) State: This is an emergency
 - (2) Your name and region
 - (3) Telephone number to reach you
 - (4) Your location
 - (5) Name of person injured or exposed
 - (6) Nature of emergency

Give the same information to the toxicologist calling back, and answer any questions he has.

- D. If the toxicologist does not return your call within 15 minutes, call the Corporate 24-hour pager for assistance and then go to the following callout list for toxicological information at E & E headquarters in Buffalo. Start with the first and continue calling them in order until contact is made:

Office

Home

(EST to 8:30-5:30)

(1) David Dahlstrom	(716) 632-4491	Non-responsive
(2) Dr. Robert James	(716) 632-4491	Non-responsive
(3) Dr. Edward Carr	(716) 831-2803	Non-responsive
(4) Dr. James Nolan	(716) 898-4814	Non-responsive

WHAT TO REPORT

In all cases of contact made in the chain of reporting within E & E, the following information will be the minimum provided:

1. Name and FIT/TAT region of person making call
2. Telephone number and location of person making call
3. Name of person(s) exposed or injured
4. Nature of emergency
5. Actions taken

DEALING WITH THE PRESS

If an accident attracts the attention of the media, and if EPA has an OSC, direct all media contact to him. If an OSC is not present, direct all media contact to the NPMO. Nothing is to be said about the cause of the incident, the people involved, or the extent of injury or exposure.

INCIDENT REPORTS

Any exposure or injury to FIT or TAT personnel will require that an incident report be filed by the affected individual. In addition, the person in charge at each reporting level will prepare a report on the actions taken at his/her location during the emergency and followup. This report will be submitted to the Corporate Safety Director for collection and preparation of the final report on the incident.

LIST OF TELEPHONE NUMBERS

Regional Office

Office Phone Number: (312) 663-9445

	<u>Name</u>	<u>Home</u>
Team Leader	Scott McCone	Non-responsive
Assistant Team Leader	Jerry Kelly	[REDACTED]
Regional Safety Coordinator	Jerry Kelly	[REDACTED]
TAT 24-hour Pager		[REDACTED]
(For FIT, to be used as last resort)		

FIT NATIONAL PROJECT MANAGEMENT OFFICE

Office Phone Number: (703) 522-6065

	<u>Name</u>	<u>Home</u>
Assistant National Project Manager for Training and Safety	R. J. King	Non-responsive
Assistant National Project Manager for Training and Safety	Lew Welzel	[REDACTED]
National Project Manager	Roger Gray	[REDACTED]

TAT NATIONAL PROJECT MANAGEMENT OFFICE

Office Phone Number: (716) 631-9531

	<u>Name</u>	<u>Home</u>
National Project Manager	Lou Adams	Non-responsive

24-hour call: (716) 882-2804 (pager)
(716) 631-9530 (24-hour no.)

E & E CORPORATE HEADQUARTERS

Office Phone Number: (716) 632-4491

	<u>Name</u>	<u>Home</u>
Corporate Safety Director	David Dahlstrom	Non-responsive
Vice President for Special Projects	Gerry Gallagher	Non-responsive
TAT NPMO 24-hour call line	(716) 882-2804	